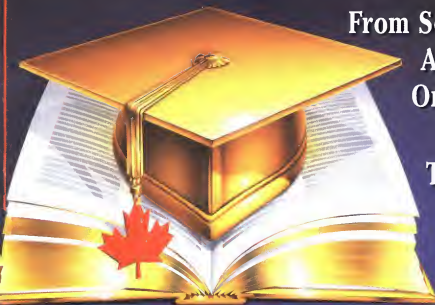


Maclean's

THE
SECOND
ANNUAL RANKING

THE UNIVERSITIES

MEASURING EXCELLENCE



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A National Poll
On Campus Life

The Concordia
Shootings:
An Exclusive
Behind-The-
Scenes Report



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SPECIAL ISSUE

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CANADA'S WEEKLY NEWSMAGAZINE NOVEMBER 9 1992 VOL 155 NO 45

Measuring Excellence

RANKING THE UNIVERSITIES

In the second annual ranking of universities, Maclean's placed them in three categories, rating them on as many as 22 criteria, from class size to alumni support. The 54-page package also includes the results of an investigation into academic irregularities in the engineering department at Concordia University, scene of the brutal shooting of four professors last summer. An exclusive Maclean's/Docima poll reveals the mood on campus towards the quality of teaching, job prospects, beer and sex. In addition, Maclean's provides thumbnail sketches of 45 universities, profiles key administrators and reports on new trends.

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A Profound Issue

The overwhelming theme that emerges from Maclean's second annual university ranking issue is that the post-secondary educational system is in a crisis far more profound than millions of Canadians realize. It is, indeed, a system under severe siege. And it is a direward spiral that will be difficult to break. The universities themselves have to bear a share of the responsibility for the problems, but the cause roots itself heavily in the provincial governments. Largely under their urging, universities, beginning in the 1950s, opened their doors to an increasingly large share of the eligible population. Then, governments began to cut their operational spending on the institutions a 23-per-cent drop in real terms per student in the past 15 years. This year, U.S. public universities received 10 per cent more in revenue per student than did comparable universities in Canada. When private U.S. universities are added into the equation, the spread is 45 per cent.

Canada is the only federation in the world that does not have a federal education ministry to impose order, standards and rationalization across the whole national system. In the months ahead, Canadians will have to make far-reaching decisions for the kinds of educational reforms they want their political leaders to make. Should more funding go to universities and less to health care? Should there be national standards imposed from a central agency? The answers will set the conditions for the kind of nation that enters the 21st century. There are few areas of more pressing concern to every Canadian.

Last year's ranking of universities created such an explosion of interest that it was a natural decision to make it an annual event. This year, Managing Editor Robert Lewis and Assistant Managing Editor Michael Brinkley recruited veteran Maclean's journalist Ann Devyney Johnson to organize and edit the entire 56-page package. She worked with Associate Editor Diane Brady, Associate Art Director Gailie Suleman and a team of writers, designers, researchers and copy editors to produce an issue that is a tribute to everyone involved.

Kevin W. Doyle



Special team members Salpasos (left), Brady, Johnson and Lewis (right) discuss the issue.

Maclean's

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Section Editors: (Opinion), Robert Lewis

Section Editors: (Features), Robert Lewis

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LETTERS

'No' views

Throughout the constitutional debate, there was much talk about the people's lack of confidence in our politicians' ability to lead ("What happened?", *Carew*, Nov. 2). On Oct. 30, they offered us the opportunity to take that leadership role and we failed. In a country as vast and diverse as Canada, leadership is about compromise. Our leaders were able to create up with a compromise, but when they left it up to us, we were not able to settle our differences, we were not able to understand our neighbors, we were not able to compromise. If anything was proven, it was that our politicians are more capable of governing than we are, and that task should be left up to them.

Roni Zerkow,
Windsor, Ont.

It still makes me mad to think how close we came to the deal, but we did not run over it. We took back our democratic rights and refused to believe our leaders. This morning, the dollar is up, the price rate is going down and the Canadian market is going up. But even better than that, the Canadian political scene will never be the same again. Thanks to the media, and us, Not them.

Douglas Clark,
Amherst, Ont.

I know quite a few Canadians who voted No either because they saw the polls and wanted to go with the majority or did not understand the deal enough to say Yes to it, just as many Canadians would not sign a contract that they could not understand. It is sad and unfortunate that most Canadians used Pierre Trudeau and racism as their main sources of information. Lots of people think "distinct" means that we are somehow superior, while a just means we Quebecers are different. Any Canadian who cannot understand why should come and visit Montreal. Westerners will feel like they are in a foreign land while I often confused them for an American city when I visited this summer. But the Canadian treaty was present, and in Montreal, it is that difference that makes Canada unique. Long live our wonderful country.

Joan-Marie Bessard,
Montreal

Compromise and apparently irreconcilable—yet highly principled—means on governing this vast territory have been a part of the Canadian experience from the beginning. The process of the country has been that we were always able to compromise and find middle ground. It was



Brian and Mira Mahoney after defeat: questioning people's lack of confidence

never particularly exciting or necessary, but we made it work. We have tragically repudiated our leaders in their attempt to bring us together. A historic opportunity to reach out to one another and affirm that the country belongs to all of us has been lost. The country's best across the country is that compromise is essential. The Canada that I loved and was proud of seems to have come to an untimely end.

Tamara Dierck,
Windsor, Ont.

'Not so bad after all'

As an American deeply interested in Canadian politics, I compliment Mulroney's for a great job of keeping an outsider in touch with the various strands of your constitutional web. I would not presume to try to analyze why the Charlottetown accord was defeated, but to make one dispassionate observation, for all the discussions, symposia, conferences, papers and arguments, the final agreement and ultimate rejection, and all their complaints, Canadians decided that, on balance, their current Constitution is not so bad after all.

Alan Thayer,
Commerce Gap, Mich.

Horror! My faith in the Canadian people is shattered. They seem to be what I was and struck a solid blow against B.S. The needs of Canada must come before the demands of provinces and special-interest groups. As a leader for the 1990s, we need a lot of Pierre Trudeau clones who is prepared to sack the provinces in the

butt. We have had enough of leaders who would give away the store in order to be re-elected.

Neil Morrison,
Amherst, Ont.

The pundits have it wrong. Maybe Canadians did not want socialism or more power for the provinces entrenched in the Constitution. The accord was designed to meet today's problems, not to build for the future.

Charles Selwyn,
St. Andrews, N.B.

Canada has and No to a Constitution constructed to satisfy Quebec's desire to be a separate country within Canada. It seems obvious that the politicians do not have the courage to face up to the obvious fact: the problem is unsolvable. So, Brian Mulroney, Robert Bourassa and all the rest of you Newagers, read Canada's lips—so more distinct-society nationalism.

Thomas P. Miller,
Hemlock

Cheering up the nation

Congratulations, Toronto Blue Jays, not only for winning three for three, and making history, but for giving this country something to cheer about ("There is a sign in Hagerstown," *Sports*, Nov. 2). The Jays have taught us more lessons than a whole summer school—work hard, play your heart out, never give up, win with teamwork and always conduct yourself with dignity and respect.

Kathryn Nordeck,
Mississauga, Ont.

Letters may be shortened. Please supply name, address and daytime telephone number. Your letters in the Editor's mailbox may appear in either issue. Send to: 3000 Hwy. 70, Box 100, St. John's, Ont. M5W 1A7. Or fax (416) 593-7759.

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LETTERS

No magical solutions

The major ailment of Canada is the political failure to address the economic ills of our nation ("The fear factor," *Canada/View*, Oct. 12). The reality of the situation is that no politician has the fortitude to tackle the economic crisis. They would prefer to wait and hope that, if and when the United States recovers, the recovery will spread northward. The government does not possess the magical solution to our economic woes. Its solution has

but it works. The Canadian multicultural mosaic absorbs people into the fabric of the Canadian nation as effectively as the U.S. melting pot. It just does it with more humanity.

Bob Delaney,
Mississauga, Ont.

Double standard

I am embarrassed and terrified at the expression of American attitudes towards racism. Comments in your article "American Dreamers," (Special Report, Oct. 12) stated that Hillary Clinton rock of prejudice, hypocrisy,



Prime Minister Brian Mulroney: charges of political indifference to economic woes

born to keep all the focus on the constitutional issue. Either way, politicians will be subservient to the economic suffering of Canadians.

Gordon Threlk,
Newmarket

A better place

I take exception to Barbara Ansel's blunder condemnation of Canadian multiculturalism ("Society's nightmares, multiculturalism," *Columns*, Oct. 12). Each year, about 380,000 new people choose to make Canada their home. By all standards, a society whose ethnic makeup is changing as rapidly as Canada's should be searching with great interest, if not eagerness, in ethnic villages. But we are not. What makes us different from Europe, the United States or other countries is multiculturalism. Eastern Europe and the former Soviet republics could see a large dose of Canadian-style multicultural tolerance. Multiculturalism is far from perfect

imagery and a disturbing double standard. While fathers and their rules in the family are belatedly ignored, the American public is getting away with hatred that could never be acted at another race, culture or religion without moral outrage. Wake up, North America. I'd vote for Hillary Clinton in a minute.

Archie McEwen,
Toronto

Too late

Given their record of ensuring credibility in the Canadian population, it will not be surprising at the next election to see Prime Minister Brian Mulroney and the Progressive Conservative party try to grab political benefit from an overdue \$28-billion public works project ("A major policy change," *Canada*, Oct. 5). But there isn't enough publicity in the land for them to succeed. With the plan to improve some of the nation's decrepit transportation

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LETTERS

infrastructure, the Tories are merely acknowledging that years of abstinence with government cutbacks as a deficit-fighting tactic have hurt people living here and now. For such belated recognition, they should expect no more than a little softer look at the polls.

Jeffrey Bernard,
Toronto

Your article raises some interesting questions that need answers before we allow our various levels of government to tear off on another orgy of vote-winning piling without revealing whether it covers any more than utterly highway and airport runways. Surely there is a greater need for public transit than there is for building new highways. Even in the urban areas, would funds not be better spent on improving Via Rail service than on air transport, which is the costliest way to move either passengers or freight? There is a need for a national transport policy to be developed before our governments embark on further piling in the view that all our transport needs can be served by motor vehicles and airplanes.

R. H. Trep,
Surrey, B.C.

Throwing stones

The Royal Bank, guided by its economists and with the approval of its directors, has lost billions of dollars in the near liquidation of these Petroleums, Argentina, Mexico, Brazil and, most recently, Greece & York. Why, then, do people like Peter C. Newman in his *Business Watch* column in *Globe* the 16 write in their last issue? Oct. 30 get so much credence in the Royal Bank study on the costs of Quebec separation?

Steve Okridge,
Kawartha

The Royal Bank says, "Two sovereign states cannot share a single currency while exercising independent political control." But does not Luxembourg operate on the Belgian franc? And Luxembourg is the Swiss franc? And Monaco is the French franc?

E. H. Kuchel,
Mississauga

Both sides

It would seem that American voters should concern themselves less with William Clinton's activities during the Vietnam War and more with what George Bush was doing during the same period (Clinton's dark shadow, *World, Oct. 30*). What with the CIA's involvement in drug trafficking in Southeast Asia,

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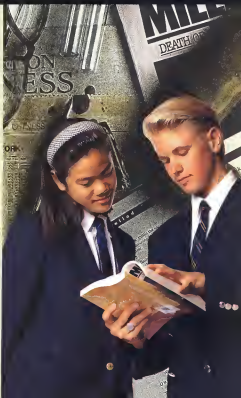
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OPENING NOTES

An embassy opening, home-town unpopularity and a Reform shakeup



MARKETING MEMENTOES

Refugees across Canada were quick to jump on the celebratory bandwagon at the Toronto Blue Jays' home World Series win on Oct. 24. Among them was Jeff Hamilton of Mississauga, Ont., which sold all 50 of its limited-edition commemorative Blue Jays leather peckers—at \$2,000 each—just a day after it began taking orders. Meanwhile, Kellogg Canada imported 200,000 boxes of Frosties Flakes with the team's trademark Puck the Pinner in a Blue Jay uniform, congratulating the team on its victory. Companies that are licensed to use official team logos pay royalties of about \$15 per unit to Major League Baseball, which distributes the money equally among the teams regardless of who wins. Official sponsors such as Kellogg's and Coca-Cola have sep-



arate long-standing agreements. In fact, Coca-Cola Canada, banking on a victory, prepared the artwork for its commemorative sub-drink cans in advance. The 7.3 million Coca-Cola Classic cans now on sale—in Canada only—feature Blue Jays and World Series logos, as well as the first series of each Series game. The company's director of marketing brands, Doug Thibault, says that Coke employees added the score for Game 4 and credits to the Blue Jays-Johnson and the Atlanta Braves 4-3 to clinch the title. "They were prepared to do a World Series can" at Coca-Cola's international headquarters in Atlanta, Hendrix said, adding: "But fortunately, we took that away from them."

WANTED: BRILLIANCE

After months of speculation, and after nearly 50 years in the foreign service, Derek Burrows, Canada's non-union ambassador to Washington, is moving to Montreal-based Bell Canada Enterprises Inc. as executive vice-president of international affairs. Burrows, 52, a native of Thunder Bay, Ont., who became Prime Minister Brian Mulroney's chief of staff in 1987 and moved to Washington in 1990, was known in the capital beds for his negotiating skills and for his very warm of tongue—during a recent Canada/Si's dialogue over beer imports, he sent state department of-

ferish sleepings of Canadian beer. The last of potential successors to Burrows includes former Alberta Premier Peter Lougheed, former deputy finance minister Stanley Barnett and Yves Fortier, who stepped down as Canada's ambassador to the United Nations last January. And although Constitutional Affairs Minister Joe Clark does any interest in the job, Ottawa insiders say that he is also on the short list. Burrows told Mulroney that candidates for the post must have one pre-political qualification, "they should be brilliant," and Burrows "is the best job in the Canadian foreign service."

THE WORLD VIEW

International press coverage of the Oct. 26 constitutional vote ranged from passing mentions to front-page news. Some headlines report from around the world.

"On the Vote for Quebec Independence: 'Not' and 'Yes' Are Roads to Hell"
—British daily in *Republica*, Rome, Oct. 27, page A8 (notes the results of the referendum were issues in Italy)
"The Canadian Impasse: A Vote on Union, the Opponents, Annotated, Leaving the Prime Minister Ruminating Now"
—The New York Times, Oct. 28, page 7

"A Lesson from Canada... If Canada's version of political gridlock, not dissimilar from the check and balance Americans have become used to..."
—USA Today, Oct. 26, page 12A

"Canada Surveys Its Elite... The net leers are the country's political, intellectual and business elite."
—The Jerusalem Post, Oct. 26 (The Post, Israel's largest English-language daily, is owned by Canadian-Israeli owner David Shalom)
"Brian Mulroney, the Big Loser"
—Le Figaro, Paris, Oct. 28, page 2

"Why Canada Fails Orbits... these problems have been around as long as the world does not know how to live without them."
—The Guardian, London, Oct. 28, page 1A

WAR GAMES

A soldiers across the—most notably the 20 years about them. In June, CIBC's ambassador, William Morgan launched his investigation of *The Balance and the Mirror*, a documentary series by Brian and Terence McKenna, after retired groups complained that it had sold the reputation of Canada in the Second World War. Morgan's report has still not been released publicly—sparking rumors that it is highly critical of the McKenna brothers. Morgan's has learned that Brian McKenna received a draft copy of the long-awaited report late last week, and that the company that co-produced the series, Gaden, has retained a lawyer in the matter. McKenna declined to comment on the report's contents or on the possibility of a lawsuit. But he added: "We are satisfied that it has given them the without being able to present our side."



Local pariah

Quebec Gov. William Clarkson spent points on the campaign and last night when he played up an endorsement from the York County Coast Star, the newspaper serving Amherstburg, Ont., where President George Bush ranks his voter residence. Last week, Clarkson also promised to endorse from The Phillips, the student newspaper at Phillips University—Bush's projected alma mater in Massachusetts. But a late vote from the governor came up short. In a two-week diary in the Little Rock-based Arkansas Democrat-Gazette a week before the Nov. 3 election, editorial page editor Paul Overton, who published the phrase "Stark White" to describe racism in the 1980s, declared: "There is something almost ugly in it, but something impressive that would a driver up the spine." Overton, in Toronto, Texas, wrote on Bush First was better. Bill Clinton, city editor for the Toronto Globe, said that Clinton was clearly the most popular candidate among residents. But at least Clark had not have to suffer the indignity (a nod to Clinton from the local press as a matter of policy, the newspaper's Clarkson does not endorse presidential candidates).

MACLEAN'S/DECIMA

THE TECHNO-FIX

After the debut of the Charlottetown accord, Prime Minister Brian Mulroney turned to focus on efforts to improve the economy and economic conditions. One of the key areas of focus was the use of cutting-edge in the workplace to replace workers with modern. A Decima Research survey asked Canadians what they thought about the use of technology in the workplace.

Do you think it is necessary to introduce more efficient technology that eliminates jobs to improve performance of Canadian business?

	NEEDED	NOT NEEDED
National	61%	39%
Ontario	50	40
Quebec	34	64
University education	51	48
High-school education	26	74
Working men	33	67
Working women	34	64
\$70,000+ household income	55	45
Under \$10,000	32	67

Source: Decima Quarterly Report, November 1990. Percentages may not add due to rounding of "no opinion" responses.

THE POWER OF WORDS

In an Oct. 23 address at the Reform party's annual convention in Winnipeg, party speech writer George Loeb spoke about the importance of words. "In the post-1980s TV society," he said, "the impression of images, information, and words... that we have the power of words over people, all too apparent. A story that went morning in *The Globe* and *Mail* quoted unnamed Reform sources as claiming that party officials were planning a 'Muzzling'—a violent assault of the Charlottetown accord, had at first considered supporting the deal—a claim that Muzzling finally denies. Some party

members quickly disagreed. Koch and his lieutenants, Reform's communications manager Laure Watson, as lively sources for the story. Koch denied that he was one of the people quoted, but told *Maclean's* at the time that "if Preston believes that I am the occasional source, I will be out." Four days later, both Koch and Watson laid their jobs—due to the result of what Reform executive director Gordon Shaw called a "mutual parting of the ways." Shaw told *Maclean's*: "I said and Laurie was dropped by them at the same time. I can't comment further, except to say that the matter is now in the hands of lawyers."



Muzzling sources

PASSAGES

APPOINTED: Internationally known businessman and environmentalist Maurice Strickland, chairman of financially troubled Ontario Hydro, by Ontario New Democratic Premier Bob Rae. Strong was secretary general of this year's United Nations Earth Summit in Brazil and a former head of Petro-Canada, Power Corp. and the Canadian International Development Agency. A longtime Liberal candidate, he will earn \$425,000 a year and replace longtime war aide and generalist Bessios, who is moving to the chairmanship of British Columbia Hydro.



Strickland

ENGAGED: Parti Québécois Leader Jacques Parizeau, 42, and Liberte Lapointe, 40, director of a Quebec provincial ministry based on workplace conditions. Parizeau's first wife, novelist and environmentalist Aline Parizeau, died of cancer in 1990.

DIED: Retired photographer Sir Kenneth MacMillan, 62, of a heart attack, backstage at London's Covent Garden ballet, and opera house during a revival performance of his 1978 ballet *Macbeth*. After the performance ended, an official announced his death to the audience.

FILED: In television news reporter Arthur Kohn, 58, a \$30-million net against NBC, changing branch of contract, defecation and fraud.

The network fired the Alberta-born journalist in August, saying that he had refused to cover a 10 inspection team entering nuclear reactors in the province. Kohn, who became known as the "Third Star" during his coverage of the 1960 Gulf War for his apparent calm behavior during Soviet missile attacks, said that NBC actually demanded less over a management dispute.

REHABILITATED: Seventeen-year-old Indian astronomer, physicist and mathematician, Gadhoo, by the Vatican's Pontifical Academy of Sciences. Gadhoo was condemned by the inquisition in 1633 for teaching that the earth moves around the sun. He remained under arrest, but after suffered eight years of house arrest until his death in 1642 at 77.

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COLUMN



Yes to Canada, No to group politics

BY BARBARA AMIEL

The first thing I noticed when I returned to Toronto for the referendum vote was the absence of No signs on front lawns. Yes signs were proudly stuck up all over windows alongside large Canadian flags, but where was the opposition? "Why not the trouble?" explained one family who was voting against the constitution at a meeting. What have we done, I asked myself, when many Canadians feel that the safest thing to do is keep silent?

On referendum night, I watched the results at a dinner party, surrounded by members of Canada's various ethnic groups. The guests included a university professor, the chief executive officer of a Canadian bank, an Ontario justice officer, a bilingual female entrepreneur—and growing glances as the results came in. All sorts of explanations were offered for the No vote: it was a vote against change, it was a racist vote, it was fear and loathing. On television Prime Minister Brian Mulroney was telling us that the Canadian people had spoken. I wanted for the logical response to this message—his resignation. The Canadian elites, I thought, are like the Bourbons: they have learned nothing and forgotten nothing. They do not understand what the vote means, they cannot hear the people, and even as The Toronto Star they will not let go of the ideas that have led to the debate.

For myself, I found the No vote mildly surprising. Canadians lived down the ethnic, business, academic, culture and media—and a \$125-million campaign. The pressure to vote Yes came from every possible institutional segment, while the No supporters lacked any cohesive force and carried largely of minorities like Preston Manning's Reform party or July 1982's militant democrats—unable to enjoy any significant following.

In deference, everyone looked at the results through their own eyes. Indeed activists were at one in seeing it as a rejection of self-government. Most Canadians seemed con-

We are Canadians first—not cowboys or Indians, men or women, francophones or anglophones, employees or employers

vinced that it was a rebuke of their argument that the amendments gave them sufficient privileges. Separatists declared that a majority of Quebecers wanted independence. The fact is, while I have no idea how Canadians would vote if there was a referendum on aboriginal self-government, I am certain that the majority of those who voted No on the referendum questioned it with absolutely no confidence in aboriginal rights any more than most people thought about Robert's women. My favorite television moment came when a lady professor from the University of Western at the front of a large screen showing that close to 70 per cent of British Columbia was voting No and solemnly declared that was because voters "want greater assurance of rights for the environment."

When the elite forces of a country are all marshalled on one side, it is impossible to escape the conclusion that what the people voted No to was the deal makers, the entire establishment and their vision. A lot of Canadians noted Yes because, courtesy of the business and political elite, they were scared into thinking they would lose their jobs. It is an act of monumental irresponsibility and self-marginalizing—and in my view a compelling ar-

son to withdraw funds—to have the Royal Bank of Canada state that one million Canadians would flee if Quebec seceded.

Why did the people reject the elites? I think the reasons are obvious, but in my opinion Canadians want something very wrong with the deal. Something was. The only thing people wanted the elites did not make up the Yes group is that they all subscribed to the trust that has characterized Canadian politics for the past 25 years, namely group politics.

Although group politics are a recipe for disempowerment, our elites have been there, they insist on promoting the multicultural society and devoting all manner of public policy on the basis of the special needs of one group or another. It is ironic that the people who have done absolutely everything in their power to turn Canada into a geographic area inhabited by a number of hostile groups divided by language, ethnicity, income bracket, sexual orientation, and disempowerment should now wonder about their failure to get Canadians to vote their righteous vision of this country into the constitution.

I don't possibly agree that all those who voted No consciously understood that it was group politics they were rejecting. What I do believe is that Canadians sense that group politics are destructive, but fear that it is not respectable to say so—hence the absence of his signs. From The Vancouver Sun, the paper I once edited, has become as much a part of the business and cultural establishment that it deserted the No side as in effort to become respectable to all the wrong people—missing a splendid opportunity to be the faces of dissent. What Canadians need to understand is that it is neither racist nor anti-French, nor anti-decency to turn their back on the vicious world that their leaders offer. To use Canada as a tool in which groups juggle with one another and try to carve out niches for themselves based on a perceived grievance is the very opposite of national unity.

After the result was in, Joe Clark said that he had offered Canada the best deal it could hope for. He brought to the scene that so long as the spirit of the group politics he supports continues, no better deal could be achieved. What we need now is a leader with a plan, without a national vision, that does not take its cue from the destructive influence of group politics. We need someone to combine all of us that we are not simply people who clustered upon each other in some geographical ferment, we are Canadians. Indeed, the most important thing is that we are Canadians first—not cowboys or Indians, men or women, francophones or anglophones, employees or employers.

If only someone can convince our cultural forces to end the disempowerment of group politics and pursue reformative group self-interest, they will be shunned, made or made, can get a shot at things on their own merits. Unless this happens, the best will become the least without the violence. We have spent the past 25 years in a blood shed, but last Monday on referendum night, the people of Canada saw the first crack of light.



MEASURING EXCELLENCE

Academic is not the most congenial of adjectives, the university, to me the most congenial of lives.

—Robertson Davies, *The Rebel Angels*

Congenial. It is not a word that comes to mind in an autumn of discontent. Nor is it a sentiment for an age of underhiring and underemployment, of dwindling transfer payments and global competitiveness, a time of falling productivity, recession and constitutional chafing. As the world slides toward the third millennium, head down, body hunched for yet another onslaught of modern life, congeniality seems an affront.

But university is a different place, with no road maps and no two paths alike. All turns are the right turns. In the library stacks, Virginia Woolf leads to Lytton Strachey, then Alec Strachey, who leads to Sigmond Freud and onwards, to Melanie Klein. Crisscrossing for exams, a quick, guilty detour to Perroquets leads to Kurt Vonnegut, striding out from the cover of *The Africanist*. Straching for it, hands

**Maclean's goes
back to school
and ranks
Canadian
universities**

clutch, single mothers going home to both children and orthodoxy; adults rushing from work to class. From the uniquely calibrated world of home, they appear, thousands of lives converging. All have carved out a fragment of time for the privilege of learning. Late at night, they all have their private struggles.

But some things never change. Under pressure, when the cause seems lost, the Presbyterian shield of a "third

colide and lives are changed.

All doesn't lead straight to the future. That is the spell of a university, the almost preposterous opportunity of the whole experience.

As with childbirth, there is a certain anemous the tough stuff washes. Forgetting are the dark days of March, when essays pile up, exams loom and the acid taste of fear dominates every waking moment—the days when brave and private choices are made on too little sleep.

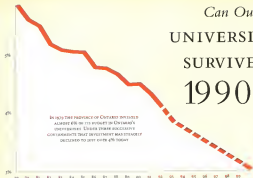
That is the memory. But in the anniversary of 1992, rainy intruder. There are food banks for students too broke to buy

COURTESY OF THE UNIVERSITY OF TORONTO



Can Our UNIVERSITIES SURVIVE the 1990s?

IN 1991 THE PROVINCE OF ONTARIO INJECTED ALMOST \$16 IN ITS BUDGET IN ONTARIO'S UNIVERSITIES. UNDER THREE SUCCESSIVE GOVERNMENTS THAT DEPARTMENT MANIFESTLY DECIDED TO GET OFF ON A 4% TOLL



ONTARIO CAN BE PROUD OF OUR universities' contributions to education, to research and to the economic, social and cultural progress of our province. The growth in the number of full-time equivalent students they serve — 41% from 1979 to 1991 — demonstrates their accessibility and their productivity.

But consider the following facts: On a per-person served basis, grants to universities have declined by 15% over the past thirteen years — while grants to schools have increased by 35%, and to hospitals by 40%.



LAST YEAR, ONTARIO'S PER-STUDENT operating grants to universities were the second lowest of any Canadian province.

In 1976, per-student grants to public universities by the states of California, Florida, Minnesota and New York averaged more than 50% higher than Ontario's.

If this pattern of decline is allowed to continue, it will lead to more overcrowded classrooms, reduced accessibility and a diminished capacity to contribute to the future of the Ontario community. The formative experience universities have offered to their graduates will no longer be available for our young people.

Something's got to change! Alumni leaders from Ontario's universities have joined forces to organize Friends of Ontario Universities. In the coming months Friends will be recruiting members throughout the province — to fight for the future of university education in Ontario.

If you care about the viability of Ontario's universities — and want to find a way to express your views effectively to our political leaders through overseas action — please join us.

**Friends of
Ontario Universities**
493 Henthurst Place
Waterloo, Ontario
N2T 1H7

lean began to shift, and the reward is gradually overtaken by the losses, making it less, over the days to a new view of what may be ahead.

It is an experience that millions of Canadians have shared. Canada has the 100th and highest postsecondary education participation rate in the world. For that reason, two editors, both with some about to go to university, both frustrated with the lack of comparative information, conceived of last year's special issue. The Marston's ranking of 46 universities was one of the most popular—and best defended—features in the magazine's history. The issue sold out within days, and went into a second printing. Students began calling the magazine for academic counseling. Phones rang off the hook.

But from the university community came a host of strange accolades to atone, the data was incomplete, the methodology flawed. Marston's had no idea, they claimed, how different the 46 universities were. Several professors produced major papers on the ranking, the methodology flawed. Marston's had no idea, they claimed, how different the 46 universities were. Several professors produced major papers on the ranking, the methodology flawed. Marston's had no idea, they claimed, how different the 46 universities were. Several professors produced major papers on the ranking, the methodology flawed. Marston's had no idea, they claimed, how different the 46 universities were. Several professors produced major papers on the ranking, the methodology flawed.

This year Marston's went back to school. In March, university presidents gathered in Vancouver for a meeting of the Association of Universities and Colleges of Canada (AUCC), and Marston's editors asked for a subcommittee. Scheduled to a large conference room, they were given 15 minutes to present their case. They announced their determination to continue with ranking, improving and expanding on the previous year, and they were dismissed.

But beyond the meeting room, a different story emerged. One by one, university presidents met with Marston's, endorsing the project and the form of higher education. "I've preoccupied a process that is very useful," said David Strangways, head of UBC. And then, almost in passing, he added, "You know, when I moved here from the University of Toronto, I thought I hadn't moved at all."

A new reason to stand. If these two universities were present, what was

Students at
Aurifer all
disorder find
straight
on into the
future

scissors. The surveys were sent and the Canadian universities began the complex task of answering all the questions. In the end, the 1992 Marston's ranking marks a break through 44 of the 46 universities surveyed answered virtually the entire questionnaire. That accountability is a significant step forward. As public disconnection with other levels of education grows, Canadians are looking for greater transparency to the universities decision-making—perhaps impossible—problems. The best university students, aware that prosperity is not a birthright, are determined to lead the way. Says John Smith, president of Trent, "If we're going to survive in the future, it will be on our own terms."

Leading learning is no longer a slogan. Throughout the project, the words of the novelist John Gardner stood, tucked on an office wall. "We are often confronted with a number of wonderful opportunities, brilliantly disguised as insoluble problems." The survey bears witness to those words.

ANN DOWSETT JOHNSON

Steven Fraser's march? In Canada, to answer the question was pioneering work. One federal official acknowledged: "We're wanted to grow the universities that years. It's obvious—Carleton and Queen's are not independent events."

And so began the extraordinary challenge of designing a nationalized institutionalized training—a geography for Marston's to build on for years to come. For five months, editors travelled the country, meeting with university officials in every region, attempting to create a level playing field. From the West Coast to the East, academic aspects offered huge amounts of time and expertise. In Ontario, the Council of Ontario Universities (COU) established a separate committee to advise Marston's on various measurements. Many of those present at this time of meetings were also members of the project's This Face as University Accountability. The AGC established a regional group—a university president and an institutional expert from each region—whose members reached to every detail of the new survey. Constitutional Affairs Minister Joe Clark would have felt completely at home.

In June, Marston's took all that expert advice—and decided on the format. In the life of the undergraduate, some lesser matter than the academic confidence of future students.

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REACH FOR THE STARS

David Johnston was in London, England, when he learned that McGill University had finished at the top of its category in the Maclean's rankings. The McGill principal was accompanying the school's award-winning jazz ensemble in its European tour, which included performances in Paris, Dublin and at London's celebrated Church of St. Martin-in-the-Fields on Trafalgar Square. But Johnston was also in a world swing of his own. Even London he flew to Alexandria, Egypt, where he discussed plans with the Egyptian government for the third phase of a \$25 million agricultural development project run by McGill's Macdonald College. "The next century offers great promise to those universities that can reach out beyond their borders and become great international institutions," and Johnston, whose school was in last year's ranking of arts and science faculties and this year was rated ahead among universities with major doctoral and medical programs. "That's why we believe so strongly that McGill should be thrusting itself into the world." (The winners in the other two categories are profiled on the following pages.)

With a century-and-a-half of history, McGill is one of the few Canadian universities to have developed a significant international profile. And in Canada, McGill's reputation for excellence helps it attract the highest percentage of out-of-province students of any school in its category. But the Montreal university adds the Medicine's rankings largely for two other reasons. The data showed that students benefit from small class sizes and the emphasis that McGill places on getting its top faculty

Montreal's McGill shows that good research and a commitment to teaching can coexist

members—professors and administrators alike—to teach. That the school still attracts beautiful research grants in the sciences and the humanities, Johnson maintains that McGill's success. Approves the widely held notion that excellent undergraduate teaching and advanced research cannot coexist. "It is a false dichotomy," said the well-known Johnston. "At McGill, we have to take pride in research and teaching if we are to succeed."

That mix has always been part of McGill's culture. And although many of its most famous professors, from biochemist Stephen Luskow to novelist Hugh MacLennan, taught in the Faculty of Arts, the school has boasted a succession of prominent scientists since its earliest days. William Dawson, hired as McGill's principal in 1855 when Brockville still housed the campus on the slopes of Mount Royal, was a renowned natural scientist whose work was cited by Charles Darwin. Dawson taught geology and paleontology at McGill for 36 years. And McGill's Montreal Medical Institution was already a prominent school when William (Dater Sir William) Osler graduated in 1873. Osler then taught at McGill for a decade and went on to become one of the leading medical figures of his time. When he published *The Principles and Practice of Medicine* in 1892, which reviewed the textbook on clinical medicine for more than 30 years, he dedicated it in part to his own teachers at McGill.

Osler's legacy is well evident on campus: a century later, his personal collection of rare medical books is on display in a Victorian reading room, and behind a bust of the man himself in his robes. The tradition of

conducting leading-edge research has been handed down from Osler through such famous scientists as physicist Ernest Rutherford and neurologist Wilder Penfield. The list also includes such notable researchers as geophysicist Steven Connor, who conducted experiments with LSD for the U.S. Central Intelligence Agency, and basketball expert Gerald R. Bullock, who built the world's biggest gun for some of the world's most brutal attacks, including Iraq's Saddam Hussein. Today, the university's most celebrated professors still teach undergraduate classes, one of three lectures in introductory political philosophy in Charles Taylor, an internationally respected expert on G.W.F. Hegel.

Beginning next semester, John McCulloch will also spend some of his much-sought-after time in a classroom. McGill's newly appointed dean of arts is a highly regarded economist, who headed the C. D. Howe Institute's studies last year on the costs of Quebec separatism. "I'd have a lot less to bring to my class if I had just been teaching and had not done any research for the past few years," and McCulloch: "There are universities where teaching is degraded in favor of research. But here, even the best researchers

Johnson at last spring's McGill convocation: past giants have left a legacy of pride in research

teach routinely taught by Quebec's political situation, or maybe it's because of the school's deep history and traditions, or maybe it's just because Montreal is such a great city, but there is a strong sense of unity and loyalty to the school." That spirit obviously bears rich, enduring rewards for McGill's students and teachers alike.

BRUCE WALLACE in Montreal



Maclean's has expanded its rankings this year to include more than 20 measures of excellence in six broad groupings. Student body (20 per cent of the total score), Classes (18 per cent), Faculty (18 per cent), Finances (10 per cent), Library (10 per cent) and Reputation (30 per cent). The rankings are the following pages, complete information on these selected groups. Medical (Scott's) universities, with a major commitment to PhD programs. Comprehensive institutions with significant research activity and course/graduate and universities that are primarily undergraduate.

For a full description of the methodology, please see page 30.

MEDICAL/DOCTORAL UNIVERSITIES

	Overall Ranking	Strongest offering: public	Proportion with 10+ full-time profs	Proportion who produce products	Ratio of postdocs (postdocs)	International students	Student awards	Median class size, first year	Class size, first year, second year	Faculty with PhD	Books per student, faculty	Research grants	Medical income grants	Operating budget	Scholarships & bursaries (percentage of budget)	Student services (percentage of budget)	Rankings per student	Aquatics	Expenses	Score against	Reputation survey
McGILL	1	2	1*	3	1	4	3	1	2	3	4	3	1	2	7	15	9	13	13	1	4
TORONTO	2	4	6	1	6	6	4	2	5	4	1	11	4	6	3	6*	1	10*	1	6	3
QUEEN'S	3	1	1*	10	3	11	2	18*	11	7	3	9	10	11	2	4	6	6	2	3	1
UBC	4	3	3	12	5	2	6	3*	6	1*	6	4	2	6	6	11*	4	10*	7	14*	5
McMASTER	5	5	8	10*	14	6	7	8*	13*	5	11	1	7	6	12*	9	11	4	8*	6	3
DALHOUSIE	6	7	8*	6	2	11	9	16*	10	10	10	10	14	10	1	13*	8	1	10	4	10
MONTREAL	7	12	12	4	7	13	1	13	3	12	2	2	3	13	12*	11*	13	15	12	16	6
OTTAWA	8	6	13	6	4	13	6	5	7	1*	7	6	6	1	10	2	7	9	11	14*	11
ALBERTA	9	8	5	6	10	3	11	3*	6	6	6	5	6	4	4	11*	3	6	8*	12	8
WESTERN	10	6	8*	7	12	14*	13	10*	6	9	11	11	13	7	11	1	18	7	4	11	7
CALGARY	11	10	11	14*	11	16*	14	8*	13*	8	6	7	6	6	6	3	3	6	8*	6	11
SHERBROOKE	12	11	4	3	14	7	12	7	1	14	14	14	12	14	16	6	14	2	14	2	13
SASKATCHEWAN	13	14	10	13	13	1	14	6	4	16	14	14	13	12	9	7	6	3	3	6	14
LAVAL	14	13	14	6	6	6	6	14*	13*	12	6	8	6	3	9	10	15	16	15	7	6
MANITOBA	15	15	14	11	6	8	13	10*	12	11	13	13	15	14	16	9*	15	14	8*	13	14

*Ties to a tie

TOP MARKS

The following rankings are based on Maclean's 1992 survey of 2000 senior university officials. Rankings of the Royal Society of Canada, awards of nominations and senior public officials across Canada.

HIGHEST QUALITY

1. Toronto
2. Queen's
3. McGill
4. UBC
5. McMaster

MAJORS OF TOMORROW

1. Queen's
2. Toronto
3. McMaster
4. McGill
5. Montreal

MOST INNOVATIVE

1. Queen's
2. McMaster
3. Toronto
4. McGill
5. Dalhousie

BEST OVERALL

1. Queen's
2. Toronto
3. McMaster
4. McGill
5. Montreal

DARING TO SUCCEED

Creativity propelled Waterloo to the top

In 1987, in a prefabricated, aluminum building just outside Waterloo, Ont., 15 engineering students and 10 professors embarked on an experiment in Canadian learning. The branch of local businesses, the big school, then called Waterloo College Associate Faculties, attracted students of traditional classroom instruction with co-op job training in Ontario businesses—an unconventional arrangement called "co-operative education." This fall with 10,000 students working in 2,600 companies worldwide, the University of Waterloo has the largest co-op program in the world—and one of the country's most talented groups of scholars. "At first we were considered an absolute heresy," recalls president Douglas Wright, 65. "We've won academic excellence here seen as completely unacceptable—you could do it in the attic. But both? That was blasphemy." Fearing Wright adds: "We dared to do both, and that is the secret of our success."

That daring has been a critical factor in propelling Waterloo to the top ranks of Canadian universities—and in creating a unique curriculum where, critics charge, too many universities remain reluctant to change

"From the beginning, we have been driven by the desire to rethink and succeed, to make ourselves into something first class and distinctive," says Wright, who first joined the school as head of civil engineering in 1968, and who many see as the driving force behind its transformation. President since 1981, Wright, who was educated at the University of Toronto and at Cambridge, has been a career-long champion of cooperative education and of the university itself. Says Wright: "I am committed to the unconventional and the experimental."

The results have been impressive in terms both academic and practical. Last year, Waterloo's graduate students were awarded more national science and engineering research awards than any other university in Canada—more, even, than such long-established institutions as McGill, the

University of Toronto and Queen's. As well, its students have earned the attention of business leaders looking to recruit graduates with the innovative skills of William Gotsis, president of Redwood, Wash.-based Microsoft Corp., has hired over 100 Waterloo graduates—more than 100 in all—from any other university. And last year, after Wright visited Japan to explain and promote the school's approach to education, 36 Japanese companies, including Toshiba Corp. and Sony Corp., took on their first foreign recruits ever.

While tearing down the ivory towers, the University of Waterloo has challenged other academic customs as well. Central to its philosophy, says Wright, has always been the belief that students should take a hands-on approach to learning not only outside, but also within, the university. That has been especially evident in the field of computer science. In the mid-1980s, when large, mainframe computers first began to appear on university campuses, Waterloo's faculty went against conventional wisdom by insisting that students actually learn to run them. "At a time when computers were

expensive machines kept behind glass," recalls Wright, "we unlocked the door and threw away the key." One offshoot of this experiment was a variety of educational software, designed by Waterloo scholars and now licensed to universities in more than 50 countries, including the top-flight Massachusetts Institute of Technology in Boston. "Some say

we're the MIT of Canada," says Wright. "I always say, 'They're the Waterloo of the north.'"

Waterloo has also made innovations in the field of mathematics. Determined to make the subject more than an abstract academic discipline, staff brought math into the co-op stream in the mid-1980s, preparing students for jobs in sciences, mathematics and financial analysis. At that same time, they founded the first separate faculty of mathematics in North America. Within five years, the university had the highest mathematics enrollment in the world. Last year, a three-member team from Waterloo placed second in one from Harvard—and shared of honors from Harvard and Yale—in the Mathematical Association of America's prestigious Putnam competition.

But Waterloo is not just a cutting-edge scientific and mathematical university. Over the past decade, it has also employed the co-op model in subjects ranging from drama to music and political science. In the process, it has begun to draw ever greater numbers of top-notch students—only those with a A average are admitted to its co-op programs—while rebuilding and re-moulding several arts departments. In 1988, the English department, for one, began offering a major in "rhetoric and professional writing" alongside its more traditional "literature" option. Co-op English students had placements as professional writers in workplaces ranging from Imperial Oil Ltd. to the government. And, like their math and science counterparts, those students graduate from university with two years of work experience already earned on their resumes.

Contemplating his university's achievements, Wright, who is set to retire in June, clearly cannot help depicting a dash of 1980s-style pride. "People still tell us, 'This place is hard to become involved academically because you're not driven by the short-term concerns of industry,'" he says. "But at the same time, it has been a two-way street: industry and academia reward themselves only with the best—and making each other the better for it."

Adds Wright: "Ultimately, the measure of a great university will be the achievement of its students and its professors." And in the case of Waterloo, its ability to stand out only apart from its peers, but ahead of them as well.

VICTOR DYER in Toronto

COMPREHENSIVE UNIVERSITIES

	STUDENT BODY						CLASSES						FINANCES						LIBRARY		REPUTATION	
Overall Ranking	Average entering grade	Percentage with BSc or higher	Percentage who graduate	Ratio of freshmen (first year)	International (graduate)	Student awards	Median class size, first year	Class size: first and second year level	Class size: third and fourth year level	Class size: fifth and sixth year level	Class size: total	Books per student	Borrowing budget	Subsidies (percentage of budget)	Subsidies (percentage of budget)	Subsidies (percentage of budget)	Books per student	Acquisitions	Copies	Name (top)	Reputation survey	
1	3	4	1	8*	5	1	8	13	20	8	1*	3	6	7	2	8	3*	3	4	1		
2	3	1	8	4	7	2	3	8	3	7	4	4	6	5	4	10	8	11	8	8		
3	4	2	3	7	6	8	11	11*	11*	3	1*	6	3	6	3	8	8*	7*	1	2		
4	2	3	6	2	6*	3	2	3	7	5	8*	2	5	3	8*	3	3*	2	9	8		
5	5	8	3	8*	11	5	10	5	5	1	8*	3	8	8	8	8	8	8	10*	3		
6	11*	11*	4	8	13	5	7	8	5	8	3	1	9	4	1	11	10	5	2	7		
7	18	7	9	3	1	4	4	4	2	2	5	10	7	8	10*	2	11	4	3	8		
8	7	8	10	8	4	11	5	7	8	4	10	8	1	3	6	8	1	8	6	4		
9	8	5	11*	5	3	11	1	1	1	10*	11	11*	2	5	18*	4	2	5	10*	11		
10	8	8	7	1	8*	8	8	2	8	19*	5*	7	11*	11*	8	12	11	10	7	10		
11	8	10	5	4*	8*	10	5	8	4	8	8	8	10	16	8*	7	8*	7*	6	11		
12	12*	12*	12*	12*	9*	2	7	11	11*	11*	11	11*	11*	11*	11	1	8	11	18*	8		

For a full description of the methodology, please see page 38

*marks a tie

TOP MARKS

The following rankings are based on responses to mailed surveys by 2,000 senior university officials, fellows of The Royal Society of Canada, heads of corporations and senior public officials across Canada.

HIGHEST QUALITY

1. Waterloo
2. Guelph
3. New Brunswick
4. York
5. Memorial

LEADERS OF TOMORROW

1. Waterloo
2. Guelph
3. York
4. Quebec (Montreal)
5. Carleton

MOST INNOVATIVE

1. Waterloo
2. Guelph
3. York
4. Memorial
5. Simon Fraser

BEST OVERALL

1. Waterloo
2. Guelph
3. York
4. Memorial
5. Simon Fraser

SMALL BUT CARING

The walls of his bright, spacious office are adorned with images by famous graduates—a landscape print by artist Christopher Pratt, a landscape watercolor by Edward (Ted) Pollock. Not at Mount Allison University President Ian Newbould relaxes on a sofa sipping coffee, his thoughts are focused firmly on the students below his window, smiling across the styptic, tree-lined campus. “In this country many people think that the bigger the university, the better,” he says. “When it comes to undergraduates that is not the case.” As pale October sunlight filters into the room, the 60-year-old Newbould describes, in loving detail, the small classes and close-knit campus life that Mount Allison—located at picturesque Sackville, N.B.—offers its students. Says Newbould: “Our goal is the development of the student as a whole.”

That approach is clearly working. With 41 Rhodes Scholars to its credit—the highest on a per capita basis of any university in the British Commonwealth—and a list of illustrious graduates that includes politicians, judges, diplomats, artists and business people, Mount Allison's academic credentials seem beyond question. Moreover, as indicated by its rising rising undergraduates-occupied universities in Maclean's rankings, the school of 5,000 is second to none in looking after the needs

Mount Allison has survived belt-tightening and a teachers' strike to emerge at the head of its class

of the undergraduates who make up most of its enrolment. All the more, after starting a rocky and a half in operations, steering true to its original priorities is not easy. In fact, following a early faculty strike last year that was sparked by the administration's cost-cutting measures, some professors are grumbling that the university may be more interested in balancing its books than in maintaining its high academic standards. “This and things,” argues Robert Rasmussen, a math and computer science professor and president of the Mount Allison Faculty Association, “is that ultimately the students will suffer.”

The roots of the school's high standards are grounded in the Methodist Christianity of its founders. Established in 1843, the university's early years under the control of the United Church of Canada, which originated and funded it until the 1950s, joining the mass of Canadian universities that are government-funded did not change the nature of the institution, which has clung to its liberal arts and science foundation. While other schools allowed enrolments to swell dramatically during the 1960s and 1970s, Mount Allison was—and still is—determined to remain a manageable size.

Staying small means that the school's average class has just 19 students, a fraction of the numbers at larger institutions. Moreover,



Mount A's Newbould can oversee small-town conservatism and a host of Rhodes Scholars

undergraduates are taught by professors at Mount Allison—unlike some of the bigger schools where only graduate students receive the direct benefit of professorial wisdom—and they are given the opportunity to help with faculty research projects. For those reasons, too, Newbould maintains that Mount Allison, as well as other small undergraduate liberal arts universities, offers students the kind of education that few to contrast outside Canada could afford.

“In the United States schools like these are regarded as the best ones to attend,” he says. “If our students were going there, they would have to spend \$15,000 to \$20,000 a year to receive the same attention.”

Harvey Glusman, the university's director of development, contends that Mount Allison is unique even among others in its class. In Sackville, a town of about 6,000, the school's students confront none of the distractions of big-city universities. “Mount Allison is a total immersion,” says Glusman, who attended Acadia University in Wolfville, N.S., which played short in Montreal's ranking of undergraduate-focused schools. Adds Ryan Lawrence, 19, a third-year arts student from Woodstock, N.B.: “From the moment you walk on campus you feel like you are part of things.”

Even so, mounting Mount Allison's previous intensity has been a challenge for Newbould. When the rainy, costly-fueled winter began in January on July 1, 1992—after 16 years of teaching at the University of Lethbridge—Mount Allison's 1991-1992 deficit was heading for \$2.3 million on an operating budget of \$22 million. Its long-term debt stood at \$2 million. Newbould's program to reduce spending, which included requesting additional retirement and asking the 130-member Mount Allison Faculty Association to accept a pay cut, sparked a bitter strike that opened deep rifts on campus. Newbould, however, has no regrets. “My priority as president is to preserve financial integrity,” he declares, “but not at the expense of academic integrity.”

So far, there are no signs that Mount Allison is slipping. A record number of applications poured into the admissions office last summer, even though the school had recently raised its undergraduate tuition to \$3,685, the highest in Canada. Moreover, despite the university's well-publicized financial difficulties, its endowment fund now stands at \$30 million—substantial for an institution of its size.

That, at least, is a result of the enduring affection of many of the school's alumni, who include former prime minister Alex Campbell, Wallace McCain, president of McCain Foods Ltd., and Parly Carriere, chairman of consumer products giant Iamsco Ltd. Newbould's partner Pratt, who met his artist wife, Mary, while attending Mount Allison in the 1950s, recalls that the university's small-town camaraderie and its air of undergraduate progress “rooted out the experience in a way which many other schools couldn't.” In an age of ever-expanding institutions the enthusiasm of Sackville seems determined to maintain Mount Allison as a place where smaller is better.

JOHN DEBARTY in Sackville

Primarily Under-graduate Universities	Overall Ranking	STUDENT BODY				CLASSES				FAC		FINANCES		LIBRARY		REPUTATION	
		Average enrolment	Proportion with 75% or higher	Proportion who graduate	% of graduates (first year)	Shared awards	Median class size (first year)	Overseas first-year enrolment (per 100)	One-year first-year enrolment (per 100)	Grants taught by research faculty	Faculty with Ph.D.	Books per full-time faculty	Operating budget (per student)	Scholarship income (per student)	Student services (per student)	Ranking	Reputation score
MOUNT ALLISON	1	5	2	1	1	5	6	38	2	7*	3	2	4*	2*	5	3	2
TRENT	2	4	6	13	55	7	5	9	22	5	3*	1	2	3*	13	17	3
ACADIA	3	3	3	4	3	2	3*	18	6	6	2	5	26	4*	8*	7	3
WILFRID LAURIER	4	2	1	6	27	52	6*	13	13	18	3*	2	16	9	12*	12	2
RISHOP'S	5	6	9	12	2	30	2*	5	2	6	16*	7	6	3*	6	18	1
SAINT MARY'S	6	30	12*	2	7	33	13	13	6	15	1	4	18	4*	6	12	11
ST. FRANCIS XAVIER	7	8*	8	3	4	3	18	17	17	1	3*	13*	19	2	8	4	5
MOUNT SAINT VINCENT	8	7	10	18	5	11	5*	2	6	11	30*	13*	7	26	13	18	6
LETHBRIDGE	9	6	12*	18	9*	19	16	9	1	13	8	11	15	18*	1	3	12
ST. THOMAS	10	12	6	8*	6*	12*	5*	7	6	15*	16	13*	6	1	2*	2	10*
BROCK	11	9*	7	9*	36	12	15*	16	15	9*	6	9	17	12*	13	16	8
LAKEHEAD	12	15	14	17*	12	6	10	16	15	7	18*	12	12	13	10*	16	1
BRANDON	13	15*	18*	6	15	6	11	5	3	9	16	13*	11	15	8*	5	16
NEWTON	14	15*	19*	12	6	8	11	6	12	16*	16	13*	3	7*	17*	16	4
WINNIPEG	15	15	6	17*	18	6	15*	18	4	12	6	10	13	12*	4	17	13
LAURENTIAN	16	18*	15*	18	14	15	2	4	7	18	19	8	6	10*	17*	9	6
P.E.I.	17	18*	19*	7	6	4	18	15	13	4	17	13*	1	11*	16	6	2
CAPE BRETON (UCCB)	18	19	13	8	13	21*	6	19	15	2*	33	6	4	11*	12*	15	18*

For a full description of the methodology, please see page 32.

*Tied in tie

TOP MARKS

The following rankings are based on responses to mailed surveys by 2,000 senior university officials, fellows of The Royal Society of Canada, heads of corporations and senior public officials across Canada.

HIGHEST QUALITY	LEADERS OF TOMORROW
1. Mount Allison	1. Trent
2. Acadia	2. Lakehead
3. Trent	3. Mount Allison
4. St. Francis Xavier	4. Acadia
5. Wilfrid Laurier	5. Wilfrid Laurier
MOST INNOVATIVE	BEST OVERALL
1. Mount Saint Vincent	1. Trent
2. Acadia	2. Mount Allison
3. Trent	3. Acadia
4. Mount Allison	4. Mount Saint Vincent
5. Wilfrid Laurier	5. Lakehead

A RATING ROAD MAP

Consultations helped
Maclean's design a
comprehensive survey

Maclean's editors ventured into unknown terrain last year when they measured the quality of arts and science faculties at 46 Canadian universities. While the ranking clearly fell a public hunger for more information on higher education, it also touched a raw nerve in the university community. Many professors expressed outrage at being compared on only one segment of their academic programs and against universities with different resources and mandates. With the nearest survey, which ranks entire institutions in three separate groups, Maclean's has attempted to address many of those concerns and expanded upon the scope of last year's first effort.

The magazine's 1990 rankings are the culmination of months of extensive consultations throughout North America. A team of editors began the process last winter with the first of six meetings at the Council of Ontario Universities, which brought together university experts from across the province. Parallel discussions also took place with university officials in the West, Atlantic Canada and throughout Quebec. Those sessions, along with the advice of independent rankings experts in Canada and the United States, helped the editors design a survey that would ask the right questions and deliver precise answers.

The final package left little room for misinterpretation: reviewers returned a 32-page questionnaire—translated into French, when appropriate—along with a bound 78-page User's Guide that explained every criterion and defined every term within the survey. The schools were given six weeks to complete the survey, during which time further questions were answered. Finally, before using the data, Maclean's sent each president a verification sheet in order to recom-



Acadia University graduates receive their diplomas.

find the information supplied by the university. But the critical challenge was to divide universities into peer groups—an unprecedented task within Canada. In expanding to an institution-wide ranking, the editors believed that each university should be judged against those with a similar structure or mandate. Specialized universities—those with a unique mission

or course selection such as Royal Military College and Nova Scotia College of Art and Design—were excluded from the survey. Also excluded were strictly religious institutions and universities with fewer than 1,000 students, including Nova Scotia's tiny Saint-Mary's (page 74).

In attempting to derive a relevant and fair basis of comparison, the editors first examined widely accepted category guidelines from the Princeton, N.J.-based Carnegie Foundation, an influential education policy and research institute. Under the Carnegie system, U.S. universities are grouped according to such factors as research funding, program breadth and the number of PhDs granted. Maclean's then tested several other approaches to design a structure better suited to the Canadian landscape. In the end, the editors created the following three categories for rankings:

MEDICAL/DOCTORAL: These are universities with a major commitment to PhD programs and research. All have medical schools which set them apart due to the size of research grants. (McMaster University at Newfoundland, which has a medical school, was not included because its program mix was more compatible with the comprehensive universities.)

COMPREHENSIVE: These institutions offer a significant amount of research activity and a wide range of programs—including professional degrees—at the graduate and undergraduate levels. **PRIMARILY UNDERGRADUATE:** These schools are largely focused on undergraduate education, with few PhD programs. With different mandates, the universities in the three categories are separate, but equal; they cannot be combined into a comprehensive list. The magazine judged each category on up to 23 separate criteria of excellence—

NATIONAL RANKINGS

RANK	HIGHEST QUALITY	MOST INNOVATIVE	LEADERS OF TOMORROW	BEST OVERALL
1	Toronto	Waterloo	Waterloo	Waterloo
2	Queen's	Queen's	Queen's	Queen's
3	McGill	McMaster	Toronto	Toronto
4	Waterloo	Toronto	McMaster	McMaster
5	UBC	Quebec	Quebec	McGill
6	McMaster	McGill	McGill	Quebec
7	Western	Dalhousie	McMaster	UBC
8	McMaster	York	York	McMaster
9	Alberta	Mount Saint Vincent	Levi	Western
10	Levi	UBC	Ottawa	Alberta



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"This is not a four door,
it's a BMW in disguise."

They say that a picture is worth a thousand words. What then, would come of a test drive? A BMW owner, Gary Mar's words paint a picture of performance unexpectedly discovered in a 1992 Pontiac Bonneville:

"The response is excellent. The car is making me look good!"

"I would like every instructor I give - quickly, smoothly it holds the corners very very well. The steering is tight."

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Pictured above, the 1992 Bonneville SE comes equipped with a 3.3 liter sequential port fuel injection V-6 engine, fully independent suspension, anti-lock brakes (ABS) system, with available traction control and variable assist steering systems. All backed by the comprehensive Pontiac Roadside Assistance program.

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GARY MAR
Lawyer
Calgary, Alberta



many of which have never been measured on a national basis before. Editors began with a "wish list" of indicators that would assess performance in such areas as the quality of student body, faculty, financial resources, libraries and repairs. These criteria were collected into the following broad groupings:

STUDENT BODY (20 per cent of final score)
The editors believe that students are enriched by the academic caliber of their peers. As a result, Marston collected the incoming students' average high-school grades and the proportion of those with averages of 75 per cent or more. The magazine also looked at the proportion of out-of-province students in the first-year undergraduate class and the percentage of international students at the graduate level. The student-body section also includes graduation rates—the percentage of full-time undergraduate students in their second year (after the initial wave of first-year dropouts) who go on to graduate from the institution within an expected time period. In addition, Marston collected data on student academic awards over the past five years.

CLASSES (14 per cent)
For many universities, this section presented a first-year attempt to collect data on the size and quality of classes. The editors measured the median size of first-year classes, as well as the entire distribution of class sizes at all levels. In the belief that all students should have access to top faculty, Marston also rated schools on the percentage of first-year classes taught by tenured and tenure-track professors.

FINANCIAL (25 per cent)
The magazine assessed the caliber of faculty by looking at the percentage of those with PhDs or the equivalent and the number who had won national awards. The editors also assessed the ability of eligible faculty to secure grants from each of the three major federal granting agencies, with a measure of both the number and the dollar value received last year.

FINANCES (10 per cent)
This section examines the amount of money available to the university, as well as what percentage of the budget is spent on student services and scholarships. When presenting their general operating budget, institutions had to deduct any funds used to pay off debt.

LIBRARY (22 per cent)
In this section, Marston's looks at the size, cost and currency of the university's collection. The editors worked with David McCullum, executive director of the Canadian Association of Research Libraries, and other library experts to measure the total number of volume equivalents at each institution. While students often have access to other university collections through computerized catalogues, the editors believe that the campus collection is a critical resource for

SPECIAL REPORT

students. Marston's also measured the percentage of a university's operating expenses that were allocated to library services, as well as the percentage of the actual library budget that was spent on updating the collection in



Students on Queen's campus: a basis for choosing a school

order to maintain current standards.

REPUTATION (20 per cent)
This section reflects a school's reputation with its own graduates, as well as within the community at large. The criterion of alumni support measures the average percentage of graduates who donated money or gifts to the university within the past five years.

Marston's also repeated its reputation survey in the belief that some aspects of university performance cannot be measured by statistics alone. A school's reputation for excellence and

innovation affects its profile in the community and the ability of its graduates to find jobs. This year, the reputation survey was expanded to include senior university officials and fellows at The Royal Society of Canada, a national organization of distinguished scholars in all disciplines, as well as a sample of government officials and chief executive officers of major corporations from each region.

Survey participants also named their "leaders of tomorrow." While the government officials and CEOs assessed at the universities, other participants were asked to judge only individuals within their region.

All data for the rankings was calculated and tested by Georges Lefebvre, a Hull, Que.-based consultant and former senior analyst with Statistics Canada. Lefebvre, who holds a graduate degree in mathematics from the Université de Paris, has extensive experience in data analysis and evaluation. For Marston's, he identified so-called "outliers" in each group—figures that seemed

out of line or extreme. He also spent more than a week on sensitivity analysis, evaluating the effect of each criterion and different weighting methods on the ranking. And he meticulously repeated regression results, class size distributions and research grant data to ensure a level playing field.

For the editors, handling provincial differences was perhaps the most delicate matter. In Quebec, they worked with university officials to convert the university's own ranking system, as well as applicants are ranked according to where they place in leave to the class average rather than by a straight letter or percentage grade. Editors also invited officials from the Université du Québec in Montreal and Sainte-Foy to discuss ways of assessing its extensive research system. In the end, the university provided annual co-operation (Page 42). University officials in Nova Scotia agreed that measurements of library holdings did not take into account their research system, which gives students at different universities access to a common computer catalogue but they eventually agreed that the magazine's criterion was the best available.

In the end, Marston's was able to design a questionnaire that met many specific objectives while maintaining meaningful measures of excellence. For the universities, which invested substantial resources in helping to improve the survey, the 1992 ranking is an important step towards opening the way for a new chapter in public scrutiny. And for the public, a new magazine offers a better understanding of Canada's universities and a basis for choosing one that meets individual needs.

TOP 20 LIBRARIES

The following universities have the best considered scores based on library holdings per student, expressed as a percentage of the budget and the proportion of library funds spent on acquisitions.

1. Saskatchewan
2. Queen's
3. Mount Allison
4. Victoria
5. Toronto
6. Memorial
7. Calgary
8. Regina
9. McMaster
10. University of New Brunswick
11. Dalhousie
12. Lethbridge
13. St. Thomas
14. New Brunswick
15. Winnipeg
16. Acadia
17. Wilfrid Laurier
18. Alberta
19. Montreal
20. Brock

(Continued on p. 34)

DAVID BROAD

*Cash-strapped universities
are struggling to teach
students how to adapt to
an ever-changing world*

In a different world, Toronto employers would surely find work for Philippe Frappier. Formerly bilingual, diligent and urbane, he graduated in May from Bishop's University with a bachelor of arts degree. On his campus at Lennoxville, Que., he was a history teacher with consistently good grades. Throughout his summers in Toronto, he ran his own maintenance firm, installed computer programs for a food company and collected revenues for an oil company. But after weeks of interviews, Frappier, 22, cannot find a job. He is taking a night course in financial accounting at a polytechnical school, and plans to go back to university for a master's degree in business administration. "I've concluded that I do not have enough education to get the job I want," says Frappier. "It is very tough out there."

Indeed, and getting even tougher. Like Frappier, many Canadians are discovering that their university education falls short of the job market's demands. In a country accustomed to prosperity, that lesson has been a difficult one. For decades, an increasing proportion of Canadian youth flocked to universities, blissfully confident that their loose degrees would guarantee them fulfilling, life-time jobs. But the world has changed. In the global marketplace, the economic superpowers are competing feverishly—and the demand for new skills is shifting at a revolutionary pace. Companies like Bell Canada and even General Motors, once the providers of security and advancement, now find these needs changing almost overnight. And young employees find themselves in the lurch.

As a result, universities are struggling with a serious challenge: faced with unpredictable change, they must teach their students how to keep learning—and how to keep adapting. That challenge is especially acute in Canada where an unusually large proportion of industry is foreign-owned—and is now especially vulnerable to free-trade pressures. Across the nation, firms are focusing on what they do best—and shifting less-competitive operations to more-efficient global locations. Canada is missing opportunities. Two months ago, the Organisation for Economic Co-operation and Development stated that the competitiveness of the Canadian economy had deteriorated during the past two decades, largely as a result of an inadequate educational system. When Douglas Wright, president of the University of Waterloo, "This is the first time that Canadian children are probably destined to have a lower standard of living than their parents. The recession may have jolted us out of our complacency, but it's too early to tell."

The shock has forced Canadians to take a hard look at their entire educational system. Many experts doubt that their children are receiving the right education; they wonder if their expensive university system, once a source of great pride, is producing graduates who can compete in a global economy. The answers are not reassuring. Graduates often lack basic scientific and literacy skills, as well as the vital ability to learn. Those shortcomings are major

A HARSH NEW WORLD

ties, as in the 1950s, the ability to continue learning is the key to economic survival. As industries evolve, workers will switch jobs, training and retraining, taking care skills. To meet these needs, the universities are being forced to wrestle with the very definition of what they are. Observed Elizabeth Pan-Johnson, president of Mount Saint Vincent University in Halifax: "We are moving into a knowledge-based society and that requires a higher level of basic education. The dilemma is how to deliver basic education to more people when the funds are shrinking."

The educational system, in fact, is under financial siege. Since the 1950s, universities have opened their doors to an increasing proportion of the population. But as universities have grown, state-subsidized, self-sustaining government have slashed their funding. The reductions have been dramatic. Operational revenue per student has declined 13 per cent in real terms over the past 15 years. The most accurate statistical comparison is bleak: the Council of Ontario Universities reported that, in 1962, public universities in the United States received 30 per cent more revenue per student than comparable universities in Ontario. When private U.S. universities were added to the calculation, the difference widened to 45 per cent. "Underfunding is the paramount problem," says University of Toronto economist David Soper. "The constraint is reducing the number and the diversity of courses, in spite of the demands of the students and the labor market."

That dilemma has clearly served the university's clientele less successfully. Students and parents are asking why graduates, with 16 years of education or more, cannot find a job. Slowly, they have recognized a real failure: education in Canada is the only education without a federal education ministry; although it provides funds for postsecondary education, it does not set national standards. And until recently, provincial governments and universities have been lackadaisical at best, about educational reform.

The result is a severely dysfunctional system. And they attempt to do it with little to show for it. At the elementary level, many pupils lack basic skills in reading, writing and arithmetic. At the high-school level, many students perform abysmally in science and mathematics. And, unlike Germany, Canada has offered few respectable alternatives for non-academic students. Instead, the entire system is designed to funnel these students into universities—even if they lack the skills to learn. Says Arthur Kruger, director of the Ontario Institute for Studies in Education (OISE): "Technical and vocational schools are viewed as almost non-

main-stream professions that take troublemaker kids. We have not put enough money in effort into building an alternative for those who are probably not going to get that much out of university."

Those problems laid squarely on the universities' doorstep, and their position is becoming desperate. Squeezed for funds and saddled with unsustainable contracts, they are under the gun to meet society's needs. Even the least successful products cannot respond fast enough to meet the economy's escalating demands. Seef Jack Polyzow, vice-president



Simon Fraser University, building bridges to the larger community

of policy and research at the Business Council on National Issues. "Universities have a very difficult time responding to shifts in the marketplace because they have a shortage of resources; they are tightly regulated by governments; and they have no national center to help coordinate a very difficult to respond and to line up resources in a changing world."

With the stopwatch ticking, the best universities are reaching beyond the campus walls to forge new links with the community. Many are paying attention to the pressing needs of the labor market, and commissioning those needs to their students. The legendary co-op programs at Ontario University of Waterloo, for example, since 10,000 students between the workplace and the classroom. As well, universities are beginning to work with their neighboring community colleges, co-opting in technical programs and recognizing diplomas. And they are finally accepting the students of the future—adults upgrading their skills. These students are

a vital asset. The federal government estimates that 40 per cent of the new jobs between 1988 and 2000 will require at least 16 years of training; but, in 1986, 47 per cent of all workers did not even have a high-school diploma.

Still, the adjustments are clearly not taking place fast enough. Across the nation, troubled-term workers and parents are demanding that the universities account for their use of the taxpayers' resources. Last year, in a landmark report for the Association of Universities and Colleges (AUC), commissioner Stuart Smith demanded that the universities account for their performance in meeting the "reasonable expectations" of society. "I saw a tremendous gap between what the universities thought they were doing and what society expected of them," says Smith. "All I heard from them was a great wall that society was not tearing the university properly. I saw a great unwillingness to look inward to see whether the universities were serving society properly."

Educators say that Marlowe's annual survey of universities is a significant responsibility in that process of examination. When the survey first appeared in 1994, some educators attacked the criteria and data, arguing that it was not possible to rank institutions. This year, Marlowe's editors spent ten months working in consultation with the academic community, improving the survey and creating a system that groups similar institutions. For the first time in Canada, universities are being ranked, on an institution-wide basis, with their peers. The underlying assumption is that the universities can no longer remain aloof from society's scrutiny. Said Ian Newbold, president of Mount Allison University in Sackville, N.B.: "There are difficulties in ranking systems, but we do it every day of the week. It is only natural that common look at us."

In political circles, accountability is the moral prize. For the past year Ontario's Task Force on University Accountability has been examining the reliability of a long list of "performance indicators." Meanwhile, Saskatchewan is reviewing programs at the province's two universities. Manitoba's University Education Review Commission is holding public hearings this month on the "role and mission of universities in a rapidly changing and highly competitive world." Said Timothy Andrew, chairman of the Manitoba Promoters Higher Education Council: "People want to have windows at the very tower to see what is going on."

These efforts deserve divided credit grades. Universities get high marks for accessibility: Canada has the second-highest participation rate in postsecondary education in the world. More than two million Canadians, some 16 per cent of the adult population, have at least a university degree. In 1986-1989, 16 per cent of Canadians between 18 and 21 were full-time university students. The universities, in fact, are overloaded on some institutions are sagging under the strain. The University of Toronto, for one, is conducting its record-high enrolments.

Obviously, accessibility is not the only test of university performance. The quality of education may now be more important. To the point, not only



Homeschooling at Queen's University: an educational system under financial siege

because rich if they had more natural resources, more capital or superior technologies. New, scientific advances have reduced the importance of natural resources: the increase in farm productivity, for one, has outstripped the world's need for more food. Capital moves freely across the globe, sweeping across national boundaries. And nations can easily duplicate new products, taking over the innovator's markets through cheaper methods of production.

That leaves only one wealth-producing factor: learning. As Lester Thurow, dean of the Sloan School of Management in Cambridge, Mass., stated "In the 21st century, the education and skills of the workforce will be the dominant competitive weapon." For decades, many Canadians have truly assumed that they possessed that dominant weapon. Their university system was the pride of the prosperous postwar generation—the product of the flourishing economy of the 1950s and 1960s. Governments, flush with unaccounted tax revenue, invested their free resources in the so-called baby boom. They poured billions into the construction and expansion of universities and community colleges. Full-time university enrolments doubled between 1955 and 1962; they doubled again between 1962 and 1969. The increase has continued throughout the past 20 years, despite the departure of the last wave of the baby boom in the mid-1980s.

Some scoffers argue that Canada will have to wait at least that long for it to be worth the quality of its education. And they take less the system's great virtue because its greatest flaw: the universities become breeding tanks for those who cannot find jobs or who have no decision in their lives? Unemployed, those students drift through their programs. Other students lack basic skills; they do not even know how to learn. University of Toronto business economics professor Edward Solon states that the universities have an obligation to society to raise their entrance standards. That action, in turn, would force the elementary and secondary schools to ensure that their students graduate with basic skills. It would also weed out many unqualified applicants. Says Solon: "There is a lot of pressure from governments and from the public to enter schools as broad as possible. And, to some people, access implies self-serving standards. But we are alive, and that should be obvious to everybody."

Most universities recognize that they are on the cusp of change, torn between their traditional ideals and society's practical needs. Few would shun their commitment to learning for its own sake: classics departments, for one, will not be closed simply because there is little demand for ancient Greek scholars. But many universities are also exploring new, often daring, approaches to learning. Says Genevieve Kenney-McLure, president of McMaster University in Hamilton, Ont.: "We are the most successful with the long-term ones and we're worried about what will happen in the year 2025. We have to be—be our graduates who will be sitting in leadership positions."

To grow those leaders, universities such as McMaster are redefining their programs, breaking down the walls between disciplines. Students

are learning how to synthesize theories, data and common sense, combining engineering skills with philosophy and ethics. Other universities are developing partnerships with business. Last April, students at Saint Mary's in Halifax won the Conference Board of Canada's National Award for Excellence for their small-business consulting program. The program offers students invaluable on-the-job experience, the businesses, in turn, receive help that would normally be beyond their means.

University officials know that they have to build bridges to the larger community. Some universities are designing executive programs to meet the needs of their adult clients. Joyce Murray, the co-owner of a rehabilitation company, graduated last month from Burnaby's Simon Fraser University with a master's degree in business administration after three years' "executive" program was thoughtfully constructed for \$1,600 per four-month term, twice restaurant prices weekly followed by evening classes with about 30 students at the new downtown Harbour Centre campus. "I wanted to study with my peers, not kids straight out of high school," she says. "We were treated as if we were clients, with a lot of attention to good service."

As well, universities have forged some partnerships with community colleges. The University College of the Cariboo in Kamloops, B.C., offers both technical courses and university-level programs. Students can take an arts program that meets the standards of the University of British Columbia in Vancouver and emerge with a Bachelor of Arts degree from UCC—even though they never leave Kamloops. In fact, at the B.C. government grants in approval, the Cariboo hopes to "bolder" career graduates from a three-year college course in respiratory therapy could receive a university degree in health services with an additional year of study.

Students welcome these innovations. Jason Hayward, 18, is earning an undergraduate degree in economics at a high school in Thompson, Man. Although his professors are at the University of Winnipeg and the University of Manitoba, 600 km to the south, their lectures are transmitted through a loudspeaker to 20 students in the college classroom. Such students can push a button on a remote to ask a question or use a special-calling card to reach a professor after class. Essays are shipped to the university by bus. The practical Hayward hopes to graduate within two years. "It's cheaper than moving south—and a lot more convenient," he says. "My friends at university found themselves partying too much, dropping courses and running out of money. I don't need the social part. For me, there are the learning perks."

These innovations may appeal to the clients, but they do little to resolve the overall financial crisis. Governments provide roughly 75 per cent of the total operating costs of Canadian universities—\$5.7 billion last year including research funding. Tuition fees provide only 13 per cent of that figure. Although education is a provincial responsibility, the federal government covers a portion of postsecondary education and health care through federal payments to the provinces. The provinces, in turn, can spend the money any way they choose.

But few provinces have concentrated on educational priorities. Instead, as the baby boomers age, many provinces have pumped an

increasing proportion of the federal payments into health care—and put less into postsecondary institutions. To add to the problem, through an arcane twist on the funding formula, federal cash payments are scheduled to plateau over the next 15 years. Then the provinces will have to reduce their universities with their provincial tax revenues—although the poorer provinces will still receive transfer payments.

In anticipation of that crisis, many are focusing on cost-cutting. The governments of Saskatchewan and Alberta have forged innovative deals, sharing the costs of expensive programs. Saskatchewan students who want to study occupational therapy train at the University of Alberta. Saskatchewan picks up the education portion of the train. Alberta students who want to study veterinary medicine, in turn, attend the University of Saskatchewan. Alberta foots that bill. Saskatchewan's Alberta president Paul Davenport "increasingly that kind of speculation



University of Waterloo lab, destined to have a lower standard of living than their parents'

tion is the way of the future. In meeting our financial problems, we have adopted a selective approach to excellence.

But that innovation alone merely narrows the difference between what the universities need and what they receive. There is little hope for

more help from governments, although Ottawas and the provinces are now renegotiating the funding formula. It is not likely that the federal government will transfer enough funds to cover the universities' tab. As a result, most universities are becoming more aggressive fund-raising. They are also scrambling to develop innovative programs such as Simon Fraser's executive MBA. Still, many experts say that there is no alternative to raising tuition fees, if there are adequate student loan programs to assist poorer applicants. As New Brunswick's Premier Frank McKenna told Maclean's: "We have been trying to meet our funding requirements by being frugal, borrowing and raising the money from our people. But we are going to end up with high tuition fees."

Still, there are no road maps to prosperity in the 21st century. The global economy is changing too quickly, technology is evolving too fast. In the face of that challenge, the universities cannot devise a simple prescription for success. They can only aspire to educate students who can adapt with wisdom and grace to a fast-changing world. Davenport notes that "change is the only thing that you can predict." Canada's only hope is that the universities can create their own transformations—before it is too late for everyone.

MARY JASTIGAN with Jim from DEANE BRADY in Toronto

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TAKING A CAMPUS PULSE

A Maclean's/Decima survey paints a revealing picture of students' attitudes on issues ranging from education to sex

It is a place for working hard and spending wages, for forging friendships and value systems, and for looking ahead, however reluctantly, to the real world. The university, in other words, is a microcosm of apprehension over matters both economic and academic, but also become a place where students who survive its rigors and distractions do so by combining stoicism with lively determination. In the words of Theresa Patterson, a psychology major at the University of Victoria, B.C., "Sometimes you are have to sit back and think hard about all the things that could go wrong, and then decide very carefully how you can get what it is you're after. Then, you just hope for the best." Patterson, 22, is one of 300 university students who were questioned in a cross-Canada Maclean's/Decima poll after settling into the new school year, and among about two dozen poll respondents interviewed by Maclean's afterwards. Holding forth on subjects ranging from the education they are getting to the sex that they are consuming not, their opinions present a revealing picture of the current habits and attitudes on campus in Canada.

Despite persistent uncertainties and anxieties about the future, the prevailing mood is strongly positive. "As far as the quality of their education is concerned, students are a fairly content bunch of associates," says Decima senior vice-president Michael Sullivan, "and the main thing they are happy with is the quality of teaching—it seems to be teachers that make or break a university's reputation as a student's mind." But students are also prepared to level criticism, from not enough academic, at overcrowded classes and concerns that teachers to leave them ill-equipped for future employment. "About like outside the classroom, and especially about the relations between the sexes, they are equally unopinionated, and often civilly divided by gender. Although there is much that the sexes have in common—three out of four say that they have, in fact, had intercourse in the past year—men and women are often at odds with each other when it comes to the critical issues of mutual trust and intimacy, as well as the pursuit of learning and leisure.

Even when they loudly agree on the poll, students also qualified their responses in follow-up interviews on the basis of personal experiences. In the poll, 84 per cent of the respondents say that they are getting a good or an excellent education, and 82 per cent claim that they prefer

"Wood with a friend at UNB: sex must be an expression of love between two people"



studying at a Canadian university rather than at an American school. But most of those interviewed cited specific aspects of their schools where they see room for improvement.

Still, along with the strong satisfaction over the schools that they attend, the students polled are also powerfully positive about the concentration of education—teaching itself. In all, 83 per cent of those polled said that their teachers are doing a good or excellent job. "I have professors who are terribly concerned that everybody is getting what they need," says Susan Scottwood, 47, who has taken a leave from her job as a manager at Bell Canada to pursue a Bachelor of Arts degree at the University of Toronto. "Most, just knowing as I do about their subject area," adds Scottwood, "the good teachers are the ones who go out of their way to make sure that you come to know it, too."

Teaching reflects just many students, when overcrowded classes make it next to impossible for professors to give personal attention to everyone, even outside the classroom. Almost one-third of those surveyed were harsh in judging the use of their classes, rating those from bad to fair. "I have had two or three classes with over 300 people in them," says Stephanie Duffin, 22, who is studying psychology at Memorial University in St. John's, Newfoundland. "In that situation," she adds, "you might as well just be reading from a textbook. You certainly aren't going to learn anything from the professor."

Despite such obstacles, the vast majority of students (84 per cent) say that they are gaining useful knowledge in their way through university, and that the process is helping them to think more clearly. "In some ways, the crowded classes and the demand on professors force you to learn to look after yourself, to learn to learn, and to make your thinking more proficient," says Shawn Dwygthoff, 26, who is a history major at the University of Guelph in Ontario.

And although more than half of the students predict that it will take them more than six months to find a job when they graduate, many say that it is more important to be educated than the university experience that immediately employs them. In all, 78 per cent say that the skills they are learning are more important than the degree they will obtain. "A classical education should be valued for its own sake rather than for job training," says Sandra Blaisie, 26, who has just completed an honors degree in the University of Calgary, and who is currently working towards an education degree at the same school. "Knowing how the world works is the very broad sense, that is what is valuable to me."

Some students emphasize pragmatic attitudes. Nicole Skynner, a computer major at the University of Ottawa, is among a minority interviewed who say that the degree itself—not the education—is what they are after. Still Skynner, 20, who estimates that it will take her more than a year to get a job in her field. "There is only one reason I'm here—because I can based a university \$14,800 and after four years they will hand

me a degree that, eventually, will get me in the door of a business."

Others express doubts about the extent to which a university degree will ease open career doors. In the poll, only 58 per cent say that a university degree is absolutely essential for success. In a separate question, more than 20 per cent say that a community college diploma represents a smart investment. "It's a myth that you have to go to university to get ahead," says Anshu Datta, 21, a history major at Simon Fraser

HOW STUDENTS WOULD PREFER TO SPEND THEIR FREE TIME, GIVEN THE FOLLOWING CHOICES:

	MIN	WOMEN
Discuss your dreams with Freud	24%	40%
Drink beer and have sex	43%	14%
Discuss music with Mozart	20%	21%
Wait and work with Mother Teresa	13%	25%

University in Burnaby, B.C. "The reality is that people graduate with degrees and go to work at the paper mill in their homes."

Often cynical about where their education is leading them, many of those interviewed complained that their high school left them ill-prepared for the university experience. Laura Rowert, who is studying mechanical engineering at the University of Alberta in Edmonton, says that he had trouble making it through a required English course in the first post-secondary year. "I was learning things about grammar that I should have been taught at Grade 4," says Rowert, 23. Others complain that their high school failed to prepare them for the lecture-style format of university learning. "I don't know even simple things," says Simon Fraser's Datta, "like when to quit ratios and how to recognize important information."

Some students find that dealing with the intensely social pressures of attending university is as much a challenge as adjusting to the post-secondary crucible of intellectual and professional development. For many, it is a time of establishing independence from family and hometown friends, and for coming to terms with an adult world in which

the pleasures of dating, and the joy of intimacy, coexist with fears of date rape, sexual harassment and AIDS.

The stress of that world are especially evident when students talk about the question of trust. Just over one-quarter of those polled say that they do not trust the opposite sex as much as they used to. Among women, the number jumps to one-third—a figure that several of those interviewed, including some men, blamed on the persistence of chauvinist ideas. "I know guys who view women as little more than a goal to be 'hitted,'" says James Davies, a student of veterinary medicine at the University of Saskatchewan. Adds Davies, 30, one note of concern: "That kind of attitude is bound to produce a

GRADING EDUCATION

	EXCELLENT	GOOD	FAIR	POOR	FAIL
Teaching	28%	32%	31%	1%	—
Class size	29%	23%	20%	2%	4%
Providing knowledge and skills to this study	28%	40%	18%	1%	—
Preparation for the job market	17%	42%	28%	4%	2%
Educational overall	22%	32%	31%	1%	—



certain amount of low-level paranoia and distrust on the part of women."

And sexual attitudes are not restricted to pubs and dormitories. In one survey, 60 percent of women said that they had experienced sexual harassment from professors. For part of one semester, University of Winnipeg drama student Lynne Scott endured one teacher's lewd comments, including references to the fit of his pants, before threatening to report the man to university authorities. Scott, 36, says that the experience did not diminish her trust of other men. Says Scott: "I'm not a real willingness from many men to try to understand the kind of things that men have done to make themselves unattractive. They're honestly asking 'What do we do that scares you?' What things can we do to improve the situation?"

For victims of even more serious abuse, the effects can be broader and long-lasting. Seven per cent of female respondents said that they have been raped by a date, and another 13 per cent said that it has happened to a friend. Among those women 43 per cent say that they trust the opposite sex less than they used to, compared to 31 per cent among the rest of the women polled who hold that view. One University of Ottawa student who asked not to be identified is among them. She said that last November, after she ran into a

high school acquaintance at a pub where both she and the man had been drinking, he pulled her into a backroom of the bar, which was owned by one of his friends. "There was just an ongoing line," she recalls. Although she declined to press charges—"If it were to court I'd be put on the stand and made to look like a whore"—she says that the experience has changed how she interacts with men. "It won't happen again," she says adamantly. "Now I always make sure there are friends within arm's length when I'm out with a guy."

That victim is not alone in her preference for less as larger numbers. In total, 55 per cent of all students polled, and 66 percent of women, say that they favor group activities to doing. For many, the decision has more to do with the prospect of less than the fear of violence. "Who's a guy, you're watching what you say, your language, your appearance," says Stephanie Sims, 18, a first-year student in a psychology degree course at Brock University in St. Catharines, Ont. "With friends, you just go out and party."

When men and women do get together one-on-one, sex is often a part of the equation. In all, 74 per cent of university students polled said that they have had at least one sexual relationship in the last year, and 25 per cent have had multiple partners. But although almost 70 per cent of students—and almost 80 per cent of women—say that they reserve sex for serious relationships, many clearly have a selective definition of that term. Calgary's Helms, for one, stresses that she has "never been a person who has found sex value in the one-night stand," and that she has looked "at least some emotional depth" in a relationship before engaging in intercourse. Still, she estimates that she has had four sexual partners in the last year, and described intercourse as "really my main recreation." Others are more cautious about the relationship of love and lust: "I don't take sex lightly," says Michael Wood, a 19-year-old business major at the University of New Brunswick in Fredericton. Wood, who has had two sexual partners in the past year, describes sex as "not just something to do, but an expression of love and bonding between two people."

The prospect of disease, and death, is overshadowing some students' most intensely held sex. "All my friends are wary of who they date and who they sleep with because of AIDS," says Monclair's Duffin. And members of both sexes say that they are beginning to come to terms with the need for greater sexual discretion. Winnipeg's Scott says that although she continues to feel "a fair bit of pressure to have sex before I'm really serious," she is getting the message that in the age of AIDS, dating and sex do not always go hand-in-hand. "You have to say 'No' more than once before they get the message," says Scott. "But they do get the message." For both police and partners, the risk is above too high a cost. Of her own increasingly conservative attitude to sexual sex, she adds: "I figure, better safe than dead."

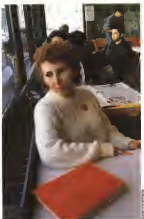
Still, the poll indicates that many students are decidedly casual about taking safety precautions in sexual encounters. Overall, including married students, 60 per cent of those polled said that they did not use a condom on the last occasion that

they engaged in sexual intercourse. Almost one-quarter of the poll respondents said that they never use a condom, and another 13 per cent said that they seldom do so during sexual intercourse. "I don't think AIDS is making all that much of a difference," says Simon Fraser's Duffin. "Bumper jumping may not be too safe," she explains, "but it's less, people are going to do it."

For others, sex without condoms is simply unavoidable. "A smart woman always carries them," says Monclair's Duffin, "and if a guy thinks you're less of a leech than it, they have." There is an attitude shared by many men as well. "I never have unprotected sex—never," says Kyle Leckowich, a French and English major at the University of Manitoba in Winnipeg. "If a woman didn't want sex to wear one," he adds, "I'd say, 'Let's just forget about having sex altogether.'"

However much the threat of AIDS has dampened enthusiasm for sex, expectations are, the thought of getting intimate remains a pleasing one to many men. One poll question sought responses to four options: talking about their dreams with psychoanalyst Sigmund Freud, discussing men with composer Wolfgang Amadeus Mozart, working with missionary Mother Teresa, or drinking beer and having sex. The result: 63 per cent of male students chose sex and talk—by far the most popular option. Says Steven Niemi, 22, a psychology student at the University of Western Ontario in London: "Ask any red-blooded Canadian guy, and if he's homophobic, he'll tell you he'd rather have a little beer and sex than talk to anybody."

By contrast for women, it is intellectual rather than sexual pursuits that the greatest appeal. Of the 14 per cent for lowest faculty choice, 10 per cent selected the beer-and-sex option. The greatest number of women, four out of 10, opted for the opportunity to discuss their dreams with Freud (24 per cent of men did so). Still, several women confessed later in follow-up interviews that they would use the opportunity to visit their disgust with his ideas: "A lot of his theories were obscenity to women, and I'd let him know it," says



Scott Niemi is "broadly asking 'What do we do that scares you?'"

say that, despite the pressures and the problems, and even because of them, universities will always be a place for intellectual and personal growth. Says Calgary's Helms: "If you can take what is good, like the teachers and the ideas, and then use it through all the frustrations—not just the school work itself, but also the hassles over large classes and small minds and shrinking budgets—then you're really for anything they can offer out there at the real world."

The complete poll is reproduced on page 79

VIDEO DIFFER

Cheating, prospering

Seeking a perk, plagiarizing a paragraph, jelling some key words on the palm of the hand: cheating has always been a big temptation at university. In the Marlon/Diana poll of students, one out of four admitted to having cheated at exams or during handed-in work that was not their own. That indicates, says Debra van der Pijl, a psychology student at the University of British Columbia, that students are defiantly under some pressure to perform. "Poll respondents who were interviewed later gave examples of how some students paid to see professors' answers. About a half, a history major at Simon Fraser University in Burnaby, B.C., said that she has heard exams set prior courses to some of her friends, although "I'd really not drive and thought about it, I'd have to admit it wasn't very fair."

Cheating on exams has gone high-tech, according to some students. Stewart MacLennan, a chemical engineering student at the University of British Columbia in London, gave an account of one trick in which students exchange information at the exam table, where calculations are permitted, by using calculators that have wireless transmitters and receiver capabilities. But the old-fashioned bakin' crib notes remain a staple among students: one respondent said that using a mass hidden in a sweater while he was during an exam is routine. "Cheating is not officially accepted," MacLennan said, "but it definitely happens." Debra van der Pijl concludes that the high number of admissions to such practices, in the poll, indicates that among modern students, "cheating has probably become a more acceptable behavior than it might have been in the past."

—V.D.

CAMPUS CONFIDENTIAL



University courtship is like an arcade game in which the rules are confusing and hazard warnings loom at every turn

The university campus was once the cradle of the sexual revolution. In the late 1960s and 1970s, higher learning often went hand in hand with getting high—on sex, drugs and rock 'n' roll. Misogyny fell from fashion. And baby books were exchanged as freely as ideas.

Times have changed. The campus is still a world of sexual sexual opportunity—in fact, with the exposure of coed residences and the abolition of censors, the official institutions have all but vanished. But sexual behavior on the campus of the 1980s is fraught with confusion, anxiety and fear. The new generation of undergraduates has never known sex without the threat of AIDS. Reports of sexual assault and date rape have become alarmingly frequent. Pornos, lockers and gay bars have launched moral campaigns against sex on every campus. And a new university is threatening to ban student rituals of intimidation.

To explore the sexual attitudes of students, Maclean's Senior Writer Bruce D. Johnson spent a week at Queen's University in Kingston, Ont. His choice was not entirely arbitrary. Queen's is one of Canada's largest residential campuses, renowned for its academic standing. And, although its problems may be no different from those elsewhere, it has generated the country's most widely reported controversies over the issue of date rape. Like many universities, Queen's is a school in

transition—a campus where a new sensitivity to sexual politics is confronting a conservative tradition.

Jonathan Carline expected university life to be different. After spending five years at an all-male private school in Vancouver, he faced the prospect of living 6,500 kilometers from home in a coed residence at Queen's University. But 17-year-old Carline was surprised for the shock that greeted him when he first checked into his room. On the desk was a hospitality kit containing some condoms, a box of contraceptive tea—and a condom. Stepping into the bathroom, Carline found himself face-to-face with a poster on birth-control methods and their efficacy ratings. Later, he visited his dad, the senior student in charge of his floor, and outlined a cardboard punch of condom passed beside his door. "It was, like, what have I walked into?" Carline recalls. "The attitude here isn't if you have sex. It's assumed that everybody is going to have sex."

Newly arrived undergraduates find themselves lost in a supermarket of potential partners. They have left behind their families, their high-school sweethearts, and all the outward entanglements of adolescence. Suddenly they are adults, free to do what they want, when they want. And they find themselves surrounded by hun-

Schlesinger and Montgomery (opposite); students at Alisa's pub, a supermarket of potential partners



someone on the same floor is definitely taboo." Guys will drink the ball as their boxer shorts to take a shower and then, on some occasions," says Corbin. "It's pretty comfortable—like a brother-sister relationship." Speer, who lives in a women's residence nicknamed "The Dreaming," says that most guys happen to her, even at Allie's. "You go downstairs," she explains, "then you go home and you're all excited because you talked to this guy and you don't remember his name. I guess that's the nervous-night stand. You drink, you flirt, you dance and that's it."

Although sexual awareness is rising and the level of coyness has dropped, getting drunk is still a rite of passage. Speer says that on a recent weekend the look part at a residence that night, consuming nine different cocktails in 90 minutes, including a Coconut Fantasy (Jaguar punch), a Pinky Pinky (coughing syrup) and a Purple Jesus (night Kool-aid and alcohol). She spent the night throwing up.

Speer now laughs it off, but residence dos Justin McQuarrie recalls a more harrowing incident during the first week of classes. At 5 a.m., she received a call from Kingston General Hospital. She showed up to find one of her first-year friends resident to looked up to an anesthesiologist. Dr. Stringers had found the student passed out in the street, lying in vomit, having lost control of her body during the party. She had been on a student best cruise, or a "boom cruise," and was then taken to a house party, where she drank more liquor. For protection, she had been matched with an upper-year buddy, who took back at her. "She was probably just as drunk," says McQuarrie.

The legendary strength of drinking at Queen's is the male-dominated engineering faculty. Bandwits with one of the lowest undergraduate course loads, engineers have a reputation for working hard and partying harder. On Fridays, beginning at noon, they kick-start the weekend at the engineering pub with a tradition of collective intoxication known as "Ritual." The rock 'n' roll is loud. Cheap beer flows like water. And the pub floor is peppered in walk-out-thick black rubber mats.

Engineers, meanwhile, have also provided some of the strongest resistance to the recent shifts in sexual etiquette. Frank (not real name), a civil-engineering student, says that "all that 'No means no' stuff is a crock." Last year, he and his four classmates placed a box of condoms at the top of their stairway, with a sign reading "In case of emergency break glass." Box paper cutouts were placed at the foot of the stairs, each representing students. "As a guy get closer to working," explains Frank, "I'm attracted more to the stairs."

The engineering culture can be oppressive for those who do not share its values. But Paul Gargula, a 25-year-old graduate student, says that he has supported nearly every one of his friends' sexual advances. In 1994, Gargula is both a guy and a member of a visible minority. For those years he kept his homosexuality in the closet. "I remember making homophobic and racist jokes just to fit in," he recalls. "I knew a lot of women, but as engineering they felt they had to act like one of the boys, and put up with a lot of sexual harassment."

However, Allie (also from Kingston, now in her fifth year of engineering) engineers, says that her male colleagues are often unfairly labeled as sexist. "You had a lot of support from them," she says, adding an Anastro coffee in the Queen Pub. Well, Oglep was disturbed by a professor who routinely greeted her with "Hey, gorgeous, you're looking good today." Oglep says, "I wasn't affected by it, but it bothered me that he didn't realize it was inappropriate."

Oglep says that she has become a feminist since arriving at Queen's, but mostly because of sexism encountered on summer jobs in the real world of engineering. "I was going into secondary school teacher placements," she recalls, "and then you see pictures of male women on the wall, you expect it. But then I'd go into a bookstore and there would be comments like, 'We want you brought a pretty one along.' Or they'd talk about my eyes. They just didn't know how to react to a woman in a hard hat."

Occasionally, Oglep has second thoughts about becoming an engineer. She's attracted to carpentry. "Building a house would be cool." But, like many students on the brink of an uncertain future, Oglep uses romance and marriage as distant portents. "I've become skeptical about the success of a lifetime relationship," she says. "I don't know where I'm



Booze (above right) at Allie's 'meat of the girls' I found one was gay-oriented.

going to be in five years, or in one year, how can I envision my life with someone else?" In the Queen Pub, an episode of *Beaver Hills* 90210 (Marina on the big screen TV), a story of high school romance with fresh white faces that makes the '90s seem so distant as the '50s. One floor below, in a makeshift canteen, students sit around cocktail tables and listen to a cover of John Cougar's "I Wanna Be a Star." One of the guys is singing a Cui Bivens song. But if you want to have lady talk, glad cars? (He) you make a little nice friends out there? Just remember there's a lot of bad and worse. (Oh) lady lady it's all about. One floor further below, at Allie's, a band from Montreal named Mo, Men & Margherita is leading a crowd of students in a bawdy sing-along to a tune titled *Everybody's Got AIDS*. A crowd of students is pressed up against the stage, going dancing with students. Occasionally a dancer leaves the stage and is handed over the crowd. Bopping up and down, bumping off each other like bumper cars, everyone dances with everyone, and with no one. It is a school night. Last call has come and gone. And the student body is wide awake, still looking for a little oblivion.

DAVID D. JOHNSON

A WORLD OF ITS OWN

The Université du Québec is a unique network of campuses scattered across the province

I was born out of the ferment of Québec universities in the late 1960s—a university created to give the province's francophones greater access to higher education. Since then, the Université du Québec has become the little university that could, and "accessibility" has been its mantra. The university is, in fact, many universities: a network of six constituent universities and five specialized institutes scattered across the province, teaching from downtown Montreal to smaller centres such as Chatham and Rimouski. And it has tailored many programs to the needs of adult and part-time students. As a result, the Université du Québec now boasts 80,000 students. But despite the growing recognition of its accomplishments, the Université du Québec played last in this year's Marlon's ranking of comprehensive schools.

That, however, need not have been the case. Officials from Université du Québec expressed outrage at last year's ranking, where Université du Québec's Montreal program, its largest school, placed 45th on a list of 46. They argued that any attempt to rank their universities with the rest in Canada was, in the words of UQAM rector Gracie Corbo, like comparing "apples to potatoes."

This year, university officials reported that Marlon's rank of its schools had improved. Marlon's agreed, and test out on questionnaires at mid-July. However, no results later, as all other questionnaires were being returned. Université du Québec officials announced that they would not take part. Two weeks later, they changed their minds, offering to submit data for one combined ranking. In the end, they left most of the survey blank, saying that the questions were either inappropriate or too complex.

Dropping the university from the ranking was never a consideration at the engineers. It is simply too central an institution to be excluded. As well, many other universities had made extraordinary efforts to complete the questionnaire. Marlon's used the submitted information, but the return severely damaged the school's standing. Corbo defended the decision not to participate on an individual basis. "Last year's ranking was not upstanding to our 60,000 students that felt we could not risk participating again," he said. "We cannot play lightly with Marlon."

Conceived in the flesh of the activist Québécois Revolution, the



Corbo: "If you open your doors, you must give the best."

Université du Québec was modeled on California's state university system of scattered campuses. Since Yves Martin, who was deputy rector of education in Québec during the university's genesis. "The government had a vision of a university that would offer more education to adults, women, working people. It was an enormous challenge to start it up."

As the century added campuses, it also grew prouder. In 1973, the respected Auer-Prager Institute, a leading health and environmental research center, joined the network. And Marlon argues that the presence of university campuses in small cities such as

Trin and Rouville and Rouville-Nord, which benefit from the resources of the whole system, has brought a richness to those communities. Unlike its partners in the system, UQAM is not the only university in town. The Montreal campus is a hybrid of French and other universities' classrooms built on top of a subway station—a location well suited to adult students attending night classes. In order to survive in a four-university city, UQAM has developed links to the other universities, offering post-graduate work with Concordia and McGill. The Montreal network may be unique, but it is as vital for us as the Université du Québec network.

Needless to cultivate those links, UQAM sought and secured an elevated status within the university in 1978. In fact, this year's Marlon's survey revealed that UQAM is fourth in Québec on the reputation ranking. "It is a must to have a university which is closer to the people than the McGill of this world," said Pierre Filiol, chairman of the publishing giant Québec Inc. Filiol has endorsed that support, donating \$5 million to UQAM for a new concert hall.

But as UQAM grows, Corbo acknowledges a shift within his school. "We have to increase the participation of the faculty in the research," he says. "We have to increase the participation of the faculty in the research." Corbo is a French and well-known professor. "But if you open your doors, you must give the best. Research improves the quality of education." Unfortunately for Canadian students—and for the Marlon's survey—they will have to wait for another year to get a better measure of UQAM's quality.

BRUCE WALLACE is in Montreal

CALL FOR EXCELLENCE

Knowledge is the central instrument of power. And by neglecting our universities, we are risking our own future.

BY JOHN POLANSKY

Directly following a referendum to denigrate the shape of the nation, Marjorie's is coming out with a new one—of all things—those supposedly venerable institutions, the universities. Perhaps we are due for a period in which we re-evaluate what is most valuable, move from form to substance and devote ourselves once more to the question of what Canada is to be.

We must plot our course on the basis of all that we understand about ourselves, and about the rapidly changing world we inhabit. For this understanding we stand firm, as nations do, to our universities—unique in their commitment to knowledge and ideas. Not only is the knowledge that conventional wisdom accepts as being relevant, upholding and politically correct, but in the entire scope of what is to be known, knowledge has always shaped civilization, but today it has become the central instrument of power.

To understand the purposes of the universities, and to meet them in fulfilling those purposes, is a heroic task. But this is insufficient reason for the way we in Canada have misunderstood and neglected them.

We have neglected them basically because we have failed to understand them. The experience of learning at a university differs significantly from being taught at school. At a university we are part of a community where learning is endemic; both teachers and taught are involved in it.

There are several reasons why this should be the case. The first is the attempt to provide the student with a compass that will act as a guide through the coming decades. Lecturers can only identify the growing path of knowledge in the extent that they are acquainted with them. For this we need a university faculty that is at home with scholarship and research.

Secondly, the universities exist to cultivate the skills and habits of scholarship, the art of critical enquiry, in the student. This cannot be done effectively except through apprenticeship alongside mentors who know what it is to be a scholar.

The third reason that universities engage in serving degrees in scholarship is that they are being asked to advise those who are shaping

our future as to the opportunities that lie ahead. The very tower exists to a large extent because, from its pinnacle, it affords a unique view.

Within our universities we are entitled to find ambassadors to every component of knowledge, who return reports that are insightful, intelligently presented and comprehensible. These academic ambassadors should welcome and instruct visitors to the domains of their expertise. Indeed, they should be troubled if they find an outflow of these messages, but never because they tell people truths that they would prefer not to hear.

Now, then, are we to foster research and scholarship? First, by taking these pursuits more seriously, and devoting to them the sort of resources that other advanced nations do. But also by encouraging greater specialization among our universities. This must of Marjorie's refers to these categories of universities. The simpler question that we shall have to face is whether we are willing to recognize even two

categories, the research-oriented and those which, to a greater extent, stress teaching. Any such division will be contentious since, happily, all universities value scholarship and scholarship ought to belong, to a degree, to research institutions.

It would be appropriate to debate any assembly from strengthening its research and scholarship. But at certain intervals, it should be assessed by external auditors to gauge their success in attracting outstanding scholars, and encouraging them to produce work of high quality. Such assessments may only be done one subject area at a time. They should then be made the basis for national funding that recognizes the special needs of the more research-oriented, and the special benefits that flow from concentrating scholars in centres where they can sharpen their skills. If we admit that these benefits exist—and until now we have been sure

volume of output, but the effect that the work being done has on our view of the world. Does the work matter?

Why go to this effort of assessment? What is the purpose in acknowledging that some universities are more effective at certain research? Why, of all other things, reward them by affecting them the conditions that will permit them to grow even stronger? There are a variety of benefits that flow from building up strength. I shall mention two. It should be evident that in this country we lack academic institutions of the highest international calibre. Equally obvious is the fact that we cannot hope to have more than a few. Could we therefore, in the interests of equity, to have none? The question should not need to be asked.

I have said that the very tower exists because, from its pinnacle, it affords a view. It must be an every tower—that is, an independent structure—of the view is to be believed. But it must have a pinnacle if the view is to be seen.

The second reason we should benefit from permitting research-oriented universities to emerge is that we could offer our underprivileged a variety of environments, and our graduate students the very best. The existence of these institutions would have a strengthening effect across the breadth of postsecondary education, so both research and teaching.

A "research university" is not a university that teaches badly. It is a university that teaches in some types of students best. In so doing, it provides young people with the full range of educational opportunities within their own country.

Harvard University is a research university almost to the point of psychosis. Though it would not be necessary to win a Nobel Prize to get tenure, it helps. Despite this stress on the research activities of its faculty, students still the doors open to be admitted. Harvard's, the doors are strong. But it would be a mistake to suppose that Harvard has little to offer its students. It would be as foolish to think that the liberal arts colleges, which have lured so many talented young people on the path to outstanding careers, have a lesser role in the educational system.

I did not have to choose Harvard, a private institution, as my example of a research-oriented university. The same is true of specialized programs within the public university system. For example, California, Texas and Wisconsin which offer a highly attractive value for a certain portion of the student population.

A nation that needs an important segment of its young people abroad, for lack of options at home, risks losing them forever. It has chosen providence in a way of life, and thereby called into question its reason for existing.

If we are to embark on the path of renewal for Canada, let us start by recognizing the promise of understanding, and hence the need to strive for the highest quality in education and research. We shall never achieve it if we refuse to permit differentiation among our institutions of higher learning.

I believe that it is a peculiar misreading of the minds of Canadians to suppose an acceptance of appeasement diversity. In the eyes of God, and some university presidents, all universities are equal. In the eyes of the makers of the special case of Marjorie's, diversity is the range of our universities, the difference that exist are important and significant. What we have lacked, until now, has been the determination to build upon them.

John Polansky is a professor of chemistry at the University of Toronto and winner of the 1988 Nobel Prize in chemistry.



Graduates at McGill: a plea for scholarship of the highest international calibre.

of the few nations that does not—thus we must determine the special needs of research-oriented institutions. The needs are various, but there is one above all others: allowing faculty time to think. As a result, they would be likely to spend less time in the classroom. If the faculty were to exploit this advantage—treating less and more in their minds—the best assessment would reveal the fact. The status of a university-oriented institution is one that can be cautiously earned.

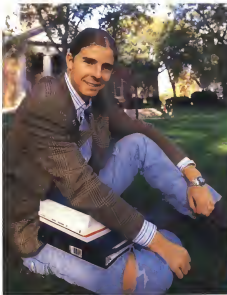
Unfortunately, the research community accustomed to making critical judgments of research performance. The quality of those assessments is high, since the assessor's own scholarly reputation is on the line. The essential index of research quality is neither glumness nor

A LEAGUE OF THEIR OWN

A growing number of Canadian students are choosing the American road to higher learning

Last fall, when Gavin Weston Jr. entered his 11th and final year at Toronto's exclusive Upper Canada College, he took what he now describes as "a long, hard look at a very short list" of Canadian universities to which he wanted to apply. "I considered Queen's, I considered Western and I considered McGill," recalls the 16-year-old son of food-and-retail magnate Gavin Weston and his wife, Hilary. "And then I thought, 'Go I want to spend the next four years seeing the same faces I've been seeing for the previous 10?'" Determined to make a fresh start, Weston applied to a handful of prominent American schools, including Harvard University in Cambridge, Mass., where he has just begun a four-year degree. "It's a bit scary starting from scratch, but honestly, I'm gobbling it all up," says Weston. "And it's refreshing to go to a place where people don't automatically recognize my name."

Weston is one of a growing number of Canadian students choosing the American road to higher learning. Prime Minister Brian Mulroney's daughter, Caroline, 18, and Gov. Gen. Borden Dent's 14-year-old son, John, are among the 120 Canadians at Harvard this fall. Increasingly, those who can afford to are making their way to such prestigious Ivy League schools as Harvard, Princeton, Brown and Yale. Of Weston's graduating class, more than one-quarter chose to attend American universities—a huge increase from last year's 14 per cent. And such private schools as St. George's Senior School in Vancouver and Port Hope's Trinity College School, 60 km west of Toronto, report that between 25 and 30 per cent of their graduating classes are going south—more than double the figures of 10 years ago.



Weston's \$100,000 price tag on a four-year experience

Despite the evident appeal of the Ivy League, there is great debate as to whether the degree is worth the price tag. \$100,000 or more for four years of tuition, room and board. "At the undergraduate level, at least, you don't have to leave Canada to get a first-rate education," says Ian Newbold, president of Mount Allison University in Sackville, N.B. "In many cases the students are simply going after a degree with cachet." Others disagree. Channing Harvard, where he

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CONCORDIA'S TRIALS

Savage killings rocked a proud institution already troubled by controversy about the ethics in Engineering

It was only September, but it felt like winter. The sky was grey and dark on the morning of the 20th, and a cold Arctic wind whipped through the streets of Montreal. Among the mourners at a local Greek church, Patrick Kenniff, rector and head of Concordia University, cut an authoritative figure, standing on his feet all in black. It was Kenniff's death funeral in a church. As with the others, he was there to bury a colleague—this time, Florin Zeigler, chairman of Concordia's electrical and computer engineering department. Zeigler, 44, was shot in a shocking multiple murder at his campus office on Aug. 24 that claimed the lives of three other professors. A few feet from Kenniff, the slouchy, thin man stood with two young sons, a girl eight and 12. "I'm not very

good at these things," Kenniff said later that evening. "Looking at that poor woman and the two young boys, I thought what a devastated thing it was that happened. I can't think about it without choking up."

Indeed, the institution to which he has brought credibility and honor has been tarnished by the savage killings that rocked Concordia—and the community it serves. The acts of irresponsible brutality have been accompanied by charges of corruption in the engineering faculty from the man accused of the massacre, Valéry Filabekait. A subsequent, Montreal newspaper, spurred by the murders, had uncovered evidence pointing strongly to major academic embezzlement in the faculty.

At 49, Kenniff himself can look back on a remarkable string of achievements. With degrees from Loyola College (now part of Concordia), Laval University and the University of Wisconsin, his impressive résumé also includes a law school postgraduate at Laval and five years as a powerful deputy minister in the Quebec government. When Kenniff accepted the top job at Concordia in 1984, he brought the school prestige as well as gaining a new honor for himself. But soon he and the university are preparing for an investigation into the so-called "murderers' alibi."

While Filabekait and many of his Concordia colleagues worry about the damage that the shooting has done to the university's image, it seems to have also shaken the rector's personal faith in human decency. "We tried and tried to understand how the mind works of someone who would do this," Kenniff confided in a conversation with *Maclean's*. "I can't come up with anything. I've tried, but I just don't understand it. I can't relate to it."

The tragedy unfolded on a hot and humid Monday afternoon in downtown Montreal. On Aug. 24, a man walked into the Henry F. Hall Building at the center of Concordia's St. George Williams campus. Inside the main, wearing a blue suit, white shirt and clip-on sunglasses, he asked passers-by to be escorted to a series of stair escalators to the sixth floor. They could not have known that he was

carrying a concealed semi-automatic 7.65-mm *Argentine*. He was pistol with an eight-round clip, a five-shot subcompact Smith & Wesson .38-caliber revolver and a German-made 6.35-mm semi-automatic *Meib pistol*.

On the sixth floor, the heavily armed man had an encounter with associate professor Michael Hogen, 55, in room 909-24. Accusing Hogen's head at point blank range, the gunman pumped three 38-caliber slugs from the Smith & Wesson into the back of Hogen's head. The short corridor, Aaron Jean Sobes, a 46-year-old mechanical engineering professor, was in his office chatting on the phone with his wife. The assassin entered, now holding a semi-automatic in each hand, and fired two shots. The stricken teacher let out a shriek and collapsed on the floor.

As the assassin wheeled out of the room, he shot at secretary Elizabeth Blomwood, 66, wounding her in the right thigh. He then headed toward the office of chairman Zeigler, calmly telling students to get out of his way. When he arrived at his destination, the gunman shot Zeigler in the stomach. The assassin now moved toward the office of Sriskanta Swamy, dean of engineering. All around him students and staff were screaming and scurrying for shelter. Hearing shots, the dean locked himself in his office. But the gunman cornered an unfortunate victim in a nearby bathroom, and engineering professor Matthew Douglas, 55, shooting him twice in the head.

With blood pouring from the five victims, the gunman shot himself in a room with two handguns. But after a time, he lay long and still. With police, he was overpowered and arrested. The men police took into custody was actually familiar with the north floor of the Hall Building. Valéry Filabekait, 52, a mechanical engineering professor at Concordia, occupied the office where Hogen was shot and had been a colleague of the victims for 12 years.

That day, Kenniff was in a small semi-secluded resort in Maine, staying at a summer house with his 16-year-old wife, 44-year-old Lucie Lacour. It was the fifth day of his first holiday in recent memory. He recalled the events a few weeks later in an Italian restaurant in Montreal's Stasley Street. "They called me and told me that there was a hostage-taking," said Kenniff. "At the time, I thought of Filabekait. I hoped that it wasn't him. Then they phoned me back and told me people had been killed. Nothing in life prepared me for something like that. It was the end of the day, and I was in a taxi cab drive from Montreal. All I could do was watch the tragedy on TV."

Douglas and Hogen were pronounced dead on arrival at the hospital. Sobes died the following day. After battling for more than four weeks in the intensive care unit, Zeigler died on Sept. 23 from massive internal injuries. Horwood was released the day after the



shooting with a minor wound, and on Oct. 17 appeared in court as a witness in a preliminary hearing for Filabekait. Fired by Concordia in September, the former professor now faces four counts of first-degree murder, one charge of attempted murder and two counts of homicide *outrage*. Kenniff told *Maclean's* that he had asked the vice-rector of Concordia to investigate Filabekait's allegations of fraud and related matters well before the shootings and "he found them to be completely untrue." But within days of the shootings, he ordered a second, independent inquiry into Filabekait's allegations—suspended for legal reasons on Sept. 28.

Kenniff added that, unrelated to Filabekait's charges or the killings, a fiscal ethics code will take effect before the end of the academic year. Pointing out that as institutions the size of Concordia needs formal rules of behavior because it is impossible to monitor every activity, the rector said: "Before the events of Aug. 24, I asked the university's legal counsel to draft a comprehensive code of ethics to deal with all academic and research matters, for example, plagiarism, conflicts of interest with companies that professors have relationships with, the whole range of ethical issues that arise in the entire academic enterprise." A draft code is now complete.

Filabekait, a Russian Jew born in Minsk a year before the German army swept through the city in 1941, earned his engineering PhD in Moscow in 1966. In a telephone interview with *Maclean's* from Montreal's Fortissimo prison last month, Filabekait said that he came to Canada as a refugee in 1979. "I was previously locked out of my country," Filabekait said in his heavy Russian accent. "I thought Montreal would be great to leave from. It sounds naive, doesn't it?"

By most accounts, Filabekait was a brilliant researcher and one of the leading authorities in the world in fracture mechanics, the study of how materials fragment under stress. After graduating with scientific papers for 18 years as a researcher, he was promoted to an associate professor in 1980. During the past three years, Edgar Karpelstein, a 30-year-old PhD student in engineering, had Filabekait as a thesis supervisor and got to know him well. "We shouldn't judge him," said Karpelstein. "He has long years of hard work. He always treated me with a lot of respect, like a colleague. I never once heard him raise his voice."

But the longer Filabekait stayed at Concordia, the more bitter he grew. He became entangled in a series of disputes with senior engineering professors and administrators. The feud began up last fall when Filabekait's department recommended against renewing his two-year contract. But a faculty committee overruled that ruling and offered the professor a one-year extension. In the spring, Filabekait sent out a series of electronic mail dispatches, often dozens of pages long, to several thousand computer users at univer-

Kenniff: "We tried and tried to understand the mind of someone who would do this"

CONCORDIA UNIVERSITY

ships across North America. The next steps continued allegations of financial fraud surrounding government contracts won by Concordia engineering professors in the 1980s. He also claimed that members of the top circle of the faculty were guilty of widespread academic fraud, and wanted to get rid of him because he had threatened to expose them.

In April, Fabrikant filed a civil suit against Prof. T. S. Sunkar, chairman of Concordia's engineering department from 1976 to 1987, and Swampy, dean of Concordia's faculty of engineering since 1977. In it, Fabrikant claimed that he had listed Sunkar as a coauthor on 38 journal papers, and Swampy as a coauthor in four, although neither of them had made any contribution to the works. Fabrikant claimed in his suit that he had to do that in order to get ahead in the department, and he stated that senior Concordia engineering professors routinely claimed the work of other junior professors and researchers as their own. Swampy and Sunkar denied the allegations.

Fabrikant, acting in his own counsel, has repeatedly noted to his lawyer that he is a pattern of murder told in a pattern to publish his allegations. Talking to *Maclean's*, he said: "I told the prosecutor, 'I'm prepared to admit that I killed four people—period. You don't need to present any witnesses.' I just want an opportunity to tell the whole truth. I believe that the children of the victims that you so emotionally mention deserve to know the truth—a man Fabrikant who was made a victim also."

Kennell saw Fabrikant's grievances in a different light. He says that Fabrikant would begin sobbing only when his contract was up for renewal. "I called him an emphysemic kind of like a shit disturber," said the reactor, visibly agitated. "He was always complaining about something."

Kennell also says that Fabrikant often tried to intimidate university staff. Recalled the reactor: "He would be carrying a gun bag and say to you, 'Don't you want to attach my bag to see if I have a gun in it? I might have a gun.' But he never made my direct threats."

At a reception at Concordia in September, Swampy also expressed anger over Fabrikant. "What really bothers me," said Swampy, "is that all that we've built over these years could be smeared by this madman."

Almost all his associates say that Fabrikant's mental stability is precarious. None say that they can even imagine that conditions in an academic institution could drive a person to commit the cold-blooded murders of Aug. 24. But by their conscience, other academics have criticized Swampy's and Sunkar's practices.

Some detractors have expressed concerns about the unusually high number of academic publications the two men list in their résumés. A search of several library indexes revealed that Swampy has written more than 242 journal and conference papers since 1968. For his part, Sunkar lists 234 conference and journal papers over the past 24 years. That record of publications clearly places Swampy and Sunkar in a league of their own—above even that of Akshay Bhatnagar, the most celebrated scientist of the century. Research's bibliography includes 238 conference and journal papers, and those were produced over a much longer period—a career spanning 53 years. Swampy's rate of publication actually increased after he took on an added workload as dean of engineering 12 years ago. Previous to that appointment, Swampy averaged about seven papers annually. Afterwards, his rate of publica-

SPECIAL REPORT

tion more than doubled, reaching a high of 26 papers in 1992 alone.

Several experts contacted by *Maclean's* said that even a prolific research professor who is completely free of administrative responsibilities is doing well if he produces five papers a year. But when an engineering professor becomes a department chairman or a dean, his rate of publication usually decreases because of management duties. Gary Hamel, dean of the University of Toronto's faculty of applied sciences and engineering, has about 100 publications over a career spanning 33 years. He says that he produces about one or two new papers each year, down from an average of three or four a year before he became dean in 1986. Pierre Bélanger, dean of McGill's faculty of engineering, has about 70 conference and journal publications over the past 25 years. Before he became dean in 1984 he would put out two or three new journal papers annually, but now it is down to one or two.

That is a pattern shared by Paul Martin, dean of Harvard University's division of applied science, which includes engineering. "I have much less time to do papers because I spend a lot more time doing things like an-



The Aug. 24 shooting: a methodical rampage that left four people dead

my hands, but I am a very hardworking person." Swampy also said that many of his papers were collaborations where he was listed as a co-author because he suggested an idea to a junior researcher to work on. "The one who says that this is something to be pursued—that idea is the most important thing," said Swampy.

Much of the debate over co-authorship revolves around how to define a contribution. But some practices at Concordia's engineering faculty stand in stark contrast to the principles which guide co-authorship at other Canadian engineering schools. The University of Toronto's Hamel, for one, says that a professor should not be listed as a co-author on a paper for simply giving an idea to a student or researcher to work on. "It does not happen that way in this faculty," said Hamel. To have a contribution, Hamel says, the professor must also carry forward the solution of the problem by holding weekly or biweekly consultations with the student throughout the project.

For his part, McGill's Bélanger says that even providing financial support to a research project does not constitute a contribution. "I wouldn't think it is ethical," said Bélanger. "You came on a paper because that you're a contributor, that you're a piece of scientific work and you have a piece of your brain put. Suppose Joe Blow comes all the street and says, 'Here, I'm going to give you \$20,000 to solve the problem.' You wouldn't put his name on the paper."

But that seems to have been an issue of some concern for Swampy's colleagues. Sunkar, Akshay Bhatnagar, a senior researcher at Montreal's Ecole polytechnique, was an assistant professor of mechanical engineer-

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ing at Concordia from 1985 to 1991. He shares co-authorship of six journal and conference papers with Sankar and a post-doctoral researcher from China named Chang-Jia Li. Hsiao says that he and Sankar were listed as collaborators on Li's papers because they were his co-supervisors. But Hsiao says that while he contributed to Li's papers by helping the researcher with his work during regular consultations, Sankar's only involvement was financial.

Sankar provided about \$6,000 in funding to Li out of a government grant he held at Concordia. Hsiao says that the practice reflected Sankar's method of accumulating publishing credits: he would assume the title of second supervisor so as many students and researchers as possible by during his grant money, and the authors would list him coming on their papers not as a source of criticism. "This is just how-conference papers, trying to add more and more," said Hsiao.

In some cases, students say, Sankar did not know much about the details of papers where he was listed as a co-author. Hsiao, 37, an analyst at Montreal-based Spar Aerospace Industries, graduated from Concordia with a PhD in mechanical engineering in 1996. During his five years at Concordia, he wrote and co-authored 12 journal and conference papers under the supervision of Prof. Sankar. Sankar was also assigned to be a supervisor, and listed as a co-author on all of the papers. But he says that he rarely even saw Sankar, only providing him with copies of his completed papers at the time he submitted them to academic journals. "We just put a few times a year to discuss how many papers I would publish or what type of topic I'm doing—very general," says he. "Kokke was eager to discuss details with me about my research but T. S. Sankar, actually, I don't know if he really understood what I was doing."

By 1991, that he had heard Sankar when he was a student in China. After joining that Sankar, who was chairman of Concordia's mechanical engineering department at the time, was publishing articles in his area of study, he wrote to the professor. Sankar invited Se to Concordia as a research associate, and after a few months, he entered Concordia's PhD program. Se said that he was soon disappointed by Sankar's lack of knowledge in his field, and that he concluded that other people had written the papers he had listed as Sankar. He now thinks that the main reason that Sankar named him to Concordia was so that he would produce papers and list Sankar as a co-author.

At one point during his PhD program, Se said that he protested about the practice of listing Sankar as a co-author to Kokke. "I said, 'I'm not going to put his name on the paper,'" Se recalls. "But he advised me, 'Don't make trouble.'" Se said that he had the impression that his having could be cut, or that he might not graduate. "You have to think about it," says he. "You spend four or five years to pursue your degree. You don't want to destroy your career."

Another visiting scholar from China said that Sankar resorted to bullying tactics. One Hsiao, 43, now a professor and vice-president of China's Shanghai University of Technology, was a PhD student at Concordia between 1985 and 1989. He wrote two conference papers during that time, and listed his supervisor, Prof. Mr. Hsiao as a co-author. "T. S. Sankar was listed as the third author," Hsiao said in a telephone interview from China, "but he did nothing." When Hsiao was coming the end of his program, he said that Sankar told him that he

SPECIAL REPORT

would not permit him to leave Concordia to go back to China. Hsiao wrote five or six papers for Sankar to use as defense for publication under both their names. Sankar dropped the deceased after Hsiao received an urgent summons to return to his university in Shanghai, but the Concordia professor continued to permit him for papers even after he left.

As a result, Hsiao said that he wrote two papers and sent them to Sankar in March, 1991, listing the professor as first author on each work—in spite of the fact that he had no scientific contribution to either paper. In July, Sankar visited Hsiao's university in Shanghai and told the scholar that one of the papers had been accepted for publication. The other paper was returned by Hsiao for revision—among them, reversing the order of authors. "He told me to put my name as the first author, instead of last," said Hsiao. "So I did it."

For his part, Sankar contradicted Hsiao's, Se's and Hsiao's version of events. He said that he made a scientific contribution to the 22 papers where he is listed as a co-author by providing the



Falkenberg is a brilliant researcher, but a tragic figure in the wrong place

students with comments to guide their research. Sankar added that Hsiao's only contribution to Li's six papers was to edit some of them, and that he had to submit Se's thesis through five drafts to make it logical and coherent. As for the two recent papers by Hsiao, Sankar said that only one of them needed publication—and that he reversed the order of authors to place Hsiao's name first.

The former chairman also insisted that he at no time demanded papers from the scholar. Explaining his superior's supervision, Sankar said, "Our purpose is to guide the students so that they become independent researchers later on. If you student of the time and wrote the equations and check the equations and tell them 'See, here you have an additional mistake,' that is not guidance—that is spoon feeding." Late on Saturday, Kaula denied any knowledge of the Morison's findings.

A longtime critic of academic malpractice in general has heard stories such as Hsiao's, Se's and Hsiao's all too often. "Professors have become entrepreneurs of a sort," says Carl Goldman, a civil engineering professor at Concordia since 1981. "They go to the government to get money for research, here comes to do the papers, then put their names down on the papers. It is a practice that has corrupted the entire relationship system across Canada, but Concordia engineering is probably the worst example you can find."

This culture of Concordia's engineering faculty, critics say, was intense and competitive, and it was the last place for a man like Falkenberg to be. But in a sense it was a culture change, almost an accident of history, the two came together—with fatal results. "As one of us lived their traditions and pressures," says Prof. Jeremiah Hsiao, a former Concordia engineering chairman. "But Falkenberg is a man in a different place. You could see that a very subtle personality placed in this environment would go off the rails." Now the names of Concordia and Falkenberg are intertwined. It will take a great deal of effort, release and dedication to unlink them.

PHIL KARRER is in Montreal



SPECIAL REPORT

TEACHING CLASS

When he enters his first-year class, Professor Shane O'Dea uses the tools of the stage. He hands theatrically clasp the air while his voice rises and falls for emphasis. Facing the room, book in hand, he brings energetic life to the poetry of Leonard Cohen and Sylvia Plath. In fact, O'Dea becomes so caught up in his work that he occasionally forgets where he is. It is a luxury his students cannot afford. O'Dea, the acting head of the English department at Memorial University in St. John's, regularly interrupts his dramatic monologues to call on a student for an answer. His approach to teaching has brought him national notoriety. In 1994, he was named Canada's professor of the year by the prestigious Washington-based Council For Advancement and Support of Education (CASE). Still, he constantly tries to improve, asking his students to assess his performance at the end of each term. Says O'Dea: "I try to feel out how they feel about the course and themselves." But according to some critics, O'Dea's dedication may be the exception and not the rule. In October, 1991, the Commission of Inquiry On Canadian University Education concluded that the country's universities had an avowed commitment to research, overshadowing the value of teaching.

In a recent interview, commission chairman Stuart Smith told *New Idea* that little had changed in the past year. Although many university administrations have announced a renewed commitment to teaching, Smith dismisses these pronouncements as empty rhetoric designed to

Some universities are placing new emphasis on their professors' work in the classroom

labeled centres dedicated to improving even the most introverted professor. And in spite of Smith's charges, some administrators have declared that teaching skills must be a fact in an instructor's tenure. Said Howard Clark, president of Dalhousie University in Halifax: "I will not consider any case for promotion and tenure without written evidence of teaching ability."

Dalhousie is among those universities with established teaching centres. Allen Wright, director of the school's Office of Instructional Development, says that a growing number of tenured professors, including new hires at the dental faculty, are taking credit courses to improve their teaching. Christopher Krupar, director of the Instructional Development Centre at Queen's University in Kingston, Ont., also reports renewed interest. As well, Queen's is considering a mandatory training course for graduate teaching assistants. "For a long time, research was the goal," says Krupar. "But we may soon see regular teaching programs for all new faculty."

Students at Queen's have played an active role in the debate over

teaching. In a referendum in November, 1989, the student body voted to create a special fund by levying a \$45 contribution per student, a major share of which goes to fund Krupar's centre. To date, they have raised \$606,000 of a planned \$775,000. According to Jonathan Noble, president of the Queen's students' society, students felt that they had no choice but to act. Funding constraints have led to larger classes and the increased use of adjunct teaching assistants. Adds Noble: "Tenure fees are gone up by eight per cent a year, but students showed their commitment to the importance of teaching by giving their \$45."

In general, students report a remarkably high level of satisfaction with the quality of teaching. In the current Maclean's/Edmonton poll of 200 university students across Canada, fully 83 per cent rated the teaching that they had received as good or excellent. A 1994 survey conducted by the Carleton University Survey Centre reflected similar findings. In a poll of 650 students at 10 Canadian universities, 80.1 per cent said that they were satisfied or very satisfied with the quality of teaching at their schools. As well, 94.6 per cent said that teaching effectiveness rather than research abilities should be the primary criterion for promotion. "For paying \$15,000 a term so that I can learn," said Sebastian Lappe, a second-year geography and biology major at Memorial University, "I'm bothered by professors who can't get their joint across. Something is not just terms off."

In academic circles, teaching awards are a major incentive, and the numbers have increased in recent years. The most prestigious of all is the annual CMAA Award. All of the CMAA winners interviewed by *New Idea* stressed the importance of good scholarship to the role of teaching. Says Mary Frances Bartholomew, a professor of chemistry at Brock University in St. Catharines, Ont., and the 1992 CMAA winner: "I'm excited about the subject, and I try to convey the sense of exploration and thrill."

In Richardson's case, her commitment to her students has extended beyond teaching. In the early 1980s, she helped design a special 100-hour students' course in which students, working alone or in small groups, would work at regular intervals. Still, both Richardson and O'Dea believe that their personal contact with their students remains the critical element in teaching. "They are like to be able to talk to me about a problem," says Richardson. "When I'm in the classroom, I want to get to know my students. And that is the thing that they seem to value year after year."

As class sizes increase, that sense of intimacy can break down. Still, some award-winning teachers argue that they can still get their message across—even with more than 1,500 students crisscrossed across a lecture hall. J. Edward Glusko, a University of T-



O'Dea in class (opposite). Wright: conducting the mind-set that doing research is all that matters

ronthropology professor and 1992 CASE winner, wears a small microphone when he teaches his 1,100 students in introductory psychology. That enables him to speak in a normal, conversational tone, giving the experience of individual dialogue. As well, he says he attempts to make students feel confident, treating each of their questions with respect. And critics claim that awards and teaching centres will have little effect on the quality of instruction without a fundamental change in the relationship between research and teaching. Dalhousie's Wright, for one, notes that even the language used by professors reflects the lower status given to teaching. Professors refer to their teaching assignments as a "course load." By contrast, research is often defined by "grants"—in other words, an opportunity to do something exciting. Adds Wright: "There is a mental set that says, 'Gee, I have a research grant that would allow me to do exciting research in my field—so I don't have these damn students beating down my door looking for help.'"

To change that attitude, says Tremaine, vice-president, academic, at Memorial University, says that universities will have to reassess their priorities. Most institutions, he points out, have forgotten that teaching should always be the paramount objective. Instead, he says, professors are being asked to do research. "We use the students the best teaching possible," says Tremaine. "But some professors have the attitude that the research comes first—and the university just happens to be a nice place to do it."

In his report last year, Smith made several recommendations, attempting to raise the prestige of teaching. For one, he suggested that professors be judged on their teaching as long as they maintain a competent level of research. And while the academic world has not moved wholeheartedly in that direction, many universities, including Memorial and Dalhousie, have made concessions. Wright notes that top researchers can easily establish their credentials by listing their published work. Administrators are demanding that professors who prefer to be judged on their teaching skills document their achievements. Such a dossier should contain highlights of a professor's teaching accomplishments and assessments of his work by peers, students and independent observers.

"It is either hard to make a case that you are a great teacher," says Wright. "The difference is not really easy. You don't see articles in the papers about how many students are with their English 100 teacher."

Some educators have argued that students' assessments tend to be unreliable. To others, those critics say, students judge professors on personality and attitude. But Harry Murray, a professor of psychology at the University of Western Ontario and one of

BIG MARKS FOR SMALL CLASSES

A ranking of schools reports the highest proportion of classes with 25 students and under:

First and second-year courses Upper-year courses

1. Trent
2. McGill
3. Laurier
4. Bishop's
5. Regina
6. Moncton
7. Lethbridge
8. Mount Saint Vincent
9. Mount Allison
10. Sherbrooke

1. Lethbridge
2. Bishop's
3. Brandon
4. Winnipeg
5. Regina
6. Saskatchewan
7. St. Thomas
8. Laurier
9. Saint Mary's
10. York

North America's top authorities on student awards, says that these are "unfairly reliable and valid." After sending trained observers into classrooms, Murray says they usually come to the same conclusions as the students.

Still, many university administrators acknowledge that their preference remains slanted towards research—no matter how solid a professor's teaching. Peter Frost, associate dean of the faculty of education and business administration at the University of British Columbia, says that it is extremely difficult to judge a professor on teaching ability alone. Frost, winner of the 1989 CASE award, says that he believes that in a competition for tenure, the strong researcher has the advantage. "We expect people to be outstanding in one of the two areas and competent in both," says Frost. "But the bias is towards research because it is the research that keeps things moving forward."

For many academics, research is the fuel that powers universities. Wright says that by employing professors who are doing advanced research, a university wins from both a public relations and financial standpoint. Cutting-edge research captures headlines and also attracts outside funds. In fact, \$47.8 million of DePaul's estimated 1992 budget of \$123 million flows from private sector and government research grants. And the University of Toronto's Gilmore added that the use of government subsidies such grants have become vitally important. Says Gilmore: "Without the grants, we wouldn't be able to attract graduate students."

William Leggett, vice-president, academics at Montreal's McGill University, says that Stuart Smith underestimated the connection between research and teaching at the university level. In virtually every field, Leggett points out, education is being updated at an unprecedented rate. Unless a professor has the forefront of his discipline, he will be reduced to lecturing from a textbook. Candidates applying for full



Krieger at Queen's,
a centre that analyses
teaching techniques

professorship at McGill not only have to teach well, but should leading international scholars within their field. Leggett adds that the Smith report underestimated the high level of teaching that exists at Canadian universities—and overlooked the fact that the best teachers agree: despite of balancing both functions. Says Leggett: "The individuals who are winning the teaching awards are also doing very high quality research."

In fact, William Mackenzie, dean of the University of Manitoba's faculty of management, says that a number of professors have left since 1989, the result of a major overhaul of the faculty. Since becoming dean in 1988, Mackenzie has hired 80 new professors—and each one has had to demonstrate a solid research background as well as competent teaching skills. To ensure that potential candidates understood the importance of teaching, each candidate has to give a trial lecture open to both students and faculty. Declares Mackenzie:

"This gets the point across that we're serious about teaching."

But that emphasis on both teaching and research has left many younger professors in an impossible situation. Not only do they have to learn how to teach on the job, but they must also produce volumes of research in order to fight for one of a few positions. "It's a daunting road to make your way as a researcher," says Frost. "As each decade goes by, the standards go up." As a result, younger professors and graduate students intent on academic careers often neglect their teaching skills. Memorial's Trueman says that the situation must change. "Graduate students should be told that teaching is part of their life," he declares. "If they don't like it, perhaps they should go in another direction." In an increasingly competitive world, smart by nature understanding, that message may have a tough time getting through.

JOHN PENNELL



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USC	83.0%	Waterloo	81.1%
Toronto	81.0%	Queens	80.1%
McMaster	80.7%	York	78.5%
Western	80.1%	Ryerson	77.2%
DePaul	79.8%	Algonquin	75.8%
Alberta	79.7%	*Concordia	75.5%
*Ottawa	79.0%	*Windor	75.5%
*Carleton	79.0%	New Brunswick	74.7%
Sherbrooke	78.0%	Carleton	72.4%
Montréal	78.0%	Qubec	n/a
Uttara	75.0%		
Saskatchewan	75.0%		
Manitoba	73.7%		

*Indicates site

PRIMARYLY UNDERGRADUATE

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Wilfrid Laurier	81.0%
Acadia	79.0%
Trent	78.6%
*Brock	77.0%
*St. Francis Xavier	77.0%
Mount Saint Vincent	76.1%
Bishop's	76.0%
Lebanon	75.6%
Saint Mary's	75.7%
St. Thomas	75.2%
Winnipeg	75.0%
Cape Breton (UNB)	74.1%
Lakeland	72.6%
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Brandon	n/a
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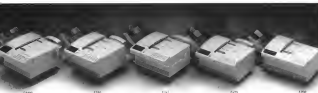


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In 1987, a 14-year-old girl with artistic aspirations landed in radio reports as the first Soviet satellite blasted into space—and it changed the course of her life. Thirty-five years later, that "child of Sputnik" as she calls herself, occupies the president's office at Brandon's McMaster University. Genistene Kenney-Wallace—former chair of the Senate Council of Canada, renowned laser expert and a successful painter whose work has been exhibited in the United States and Canada—is remarkably candid about where she has landed. "I never wanted to be president," says Kenney-Wallace, now 49. "But I did see a president's position to accomplish some of my goals."

She has found an ideal forum at McMaster University. In the highly territorial world of academics, both Kenney-Wallace and McMaster are almost wistfully blind to the borders among disciplines. Since 1974, McMaster has won worldwide acclaim for its revolutionary faculty of health sciences. The model, which such schools as Harvard and Hebrew University in Israel have copied, admits students from all disciplines, on the premise that medicine demands skills in communications and science. The current class even includes a former concert pianist. Now, the university is launching its first two "theme schools"—focused on international justice and human rights, as well as the impact of advanced materials on society—which will bring together faculty and 200 students in small parts of the university. For students, that involves adopting a holistic approach to learning—moving among subjects as various as literature, biology and economics to find creative solutions to problems—that enriches the integral learning program from which they will graduate. Kenney-Wallace describes each program as an "almost magic combination" of learning.

"It's not just for students to have their ideas," she says. "It means they lose existing superstitions to walk intellectually among disciplines."

Indeed, Kenney-Wallace insists that this freedom has blocked Canada's success in global competition. At a time when all universities are trimming costs to cope with underfunding, Kenney-Wallace continues to reinforce McMaster's research-intensive mandate. In June, the president endorsed a bold strategic plan to win tier school international recognition as "the most advanced university in Canada in research and scholarship." The plan, called *Into the 21st Century*, pledges to achieve that aim in a concentration on classified areas of strength in arts, sciences and professional faculties. But she acknowledges that the quest for research excellence is a difficult battle. "Toshiba invests more each

SPECIAL REPORT



Kenney-Wallace: laser expert, artist, visionary

A PROUD 'CHILD OF SPUTNIK'

For the president of McMaster University, research is the key to the future

year in research than all of Canada," says Kenney-Wallace. "We don't realize that our resource base has shifted its centre of gravity to the brain."

Many prominent academics share Kenney-Wallace's concerns. Rudolph Marcus, a Montreal-based scientist who won the Nobel Prize in chemistry last month, says that an emphasis on the practical applications of research is discouraged at best. "Excellent ideas come from pushing the limits of research, not from working on well-known problems," says Marcus, 69, who works at the Pasadena-based California Institute of Technology. He adds that he left Canada in 1949 because there were no training opportunities in theoretical chemistry. "People need to see their training or it's a wasted resource," Kenney-Wallace vows that her first goal is to "achieve excellence through discovery." That quest for discovery is where Kenney-Wallace, notes Alan Shriver, head of McGill's department of chemistry, has it always pays off in long-term progress. "Our strength has to come from curiosity-based research," says Shriver. "We refuse to limit our universities are trained into gadget factories."

According to Kenney-Wallace, one of the greatest obstacles in the quest for excellence in Canada's universities, in sciences and society. "There is such a thing as healthy competition," she says, "of choosing which areas we are going to build up." Although she occupies the president's chair, she still recognizes for research grants for her work on the statistical analysis of protein and nucleic acids. And she says that universities must try to excel in an environment where knowledge is not highly valued. "We live in a country that values wealth and status," she says, "but lacks motivation. We don't think globally. What an expensive paradox."

For McMaster's resource-rich president, the largest stumbling block is a perceived lack of knowledge. Kenney-Wallace is unforgiving on her prescription for success. "Education is about expanding the confidence to ask a question and the responsibility to find the answer," she says. "As a society, we should decide the most important questions and direct resources to finding the answers."

DIANE BROWN

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SPECIAL REPORT

THE CHANGING CAMPUS

The ivy-covered stone buildings here are signs of prestige and privilege. For almost 175 years, Halifax's Dalhousie University has been the pride of Atlantic Canada, the very embodiment of a tradition-based campus. But in the autumn of 1992, it is clear that the stereotype no longer fits. Asians, blacks and other minorities pour through the glass doors into the student union building. In a cluttered lounge a group of older students—whose numbers account for nearly 60 per cent of enrolment—sit together and discuss their return to the classroom. "I thought I would feel out of place among the 15- and 20-year-olds," says Lynn Gorkis, 33, a former student editor. "Nothing could have been further from the truth." Richard Louie, Parsons, 41, a linguistics student and member of four "Tan" societies, doesn't really feel out of place at all.

From Memorial University in St. John's, Nfld., to the University of Victoria on Vancouver Island, the face of the Canadian campus is undergoing a dramatic transformation. The changes can be traced back

Universities across Canada are altering their shape and substance in unprecedented ways

to the 1960s, when Canada embraced the notion that every individual should have access to higher education and its related opportunities. Thirty years later, that assumption is more than apparent. Part-time, adult and non-traditional students are the new majority on Canadian campuses. And the broad areas of these campuses are expanding through distance education, co-operative education and executive education. In meeting the needs of an increasingly diverse—and

demanding—population, universities are altering their shape and substance in unprecedented ways. "It certainly looks different this winter I was here," declared Gordon Archibald, former chairman and president of Maritime Telegraph and Telephone, Ltd. and a Dalhousie graduate. "Back in 1933 all the fellows were pretty much my age, and everybody seemed to be from New Waterford, Glen Hope and Halifax."

The changes are apparent on a stroll across almost any campus. Take York University, which is set in a heavily suburbanized section of Metropolitan Toronto. According to a recent survey, one-third of York's

42,000 students have a first language other than English, one-fifth belong to visible minorities and 17 per cent come from households that earn \$24,000 or less per year. Not surprisingly, 55 per cent of full-time students have part-time jobs, and nearly half of the 38,000 undergrads at York are enrolled on a part-time basis. "The principle of access," says Blanche Kinsberg, associate dean of arts, "is woven into the very fabric of this university."

In many ways that was true last month, the dean of arts and three vice-presidents spent a day touring the campus in wheelchairs, getting a firsthand feel for the barriers that disabled students must face every day. Leslie Alphonso, a black third-year student who has cerebral palsy and uses a wheelchair, is impressed with York's commitment. "The administration," she says, "is determined to make things better."

At Saint Mary's University in Halifax, the trend towards older students is particularly evident. More than one-third of its 8,200 enrolment qualify as mature students—they have been out of school for at least five years and are 22 or older, most fall into the 25-40 age bracket. One is Anne Groszicki, a 31-year-old single mother of three. A native of Riverview, N.B., Groszicki finished high school and obtained a college diploma in hotel and motel management before getting married and starting a family. But two years ago, separated, she found herself trying to support her three sons on social assistance. Groszicki moved to Halifax and entered Saint Mary's, where she is now a second-year criminology student getting by on loans. "I didn't want to be dependent upon anyone," she says. "And I wanted to see if I could still think and function."

There are many factors fueling the mature-student boom. Many men and women are updating their professional skills for a fiercely competitive marketplace or retraining for completely new professions. Carl Westerbeek, 40, an education student at the University of British Columbia in Vancouver, says that he was no longer finding fulfillment in his reporter's job at the *Albion Valley Times* on Vancouver Island. "I had worked there for 14 years and felt that I had done everything I could really do in the field," he declares. "Besides, I felt that I wanted to do something that contributed more to the community." Still, enrolling in the program was a sacrifice. Until the fall of 1990, when the program ended, he will live in Vancouver during the week and commute the 125 km to Port Alberni, to spend the weekend with his wife and their children. Says Westerbeek, who hopes eventually to teach history and social studies in high-school districts: "I'm sure at the end it will be worth it."

Whatever their reasons, the nontraditional students stride onto campuses with firm goals and special needs. "The students of today are a lot more demanding than those of previous years," concludes Elizabeth Perry-Johnston, president of Mount Saint Vincent, a predominantly female university in Halifax. At her school, like others, that involves opening day care centres and providing special ramps and elevators for the physically handicapped. As well, larger numbers of classes are now held at night and on weekends in an effort to accommodate students who must juggle school with jobs, families and other obligations. "There's a significant traffic jam on campus that starts at 4:30 p.m. when the day students leave and the night students arrive," says Kenneth Olson, president of Saint Mary's.

Universities have designed a wide variety of programs to prepare students for campus life. Queen's school is one of many now offering special orientation programs for

graduate students. The fall, the University of Manitoba launched a half-credit course for new students asking the transition to university. And York University's Atkinson College is offering disadvantaged groups in low-income areas of Toronto special preparation programs in such skills as studying, writing essays and making oral presentations.

Many universities have established special transitional-year programs aimed at upgrading the skills of native-to-black students to prepare them



Bryan Opposite: Yesterday, a diverse and demanding population.

for the university environment. Dorian Bryan, 21, who is black and grew up in Halifax, thought university was out of her reach. "In Halifax, black students are stressed in high school, so many don't have the right courses to go on to university," says Bryan. After graduating from Queen Elizabeth High School, she was two credits short of normal university entrance requirements and enrolled in a marking master's course at a local community college. Then a neighbor told her about Dalhousie's transition-year program, designed to prepare minorities and blacks for the university experience. "Without this program I would never have made it into Dalhousie," declares Bryan, who wants to enter the bachelor of arts program after finishing her transition-year courses, and who ultimately wants to become a French teacher. "So attractive—and keeping—college students, low schools can match the efforts of the Education-based University of Alberta. The school, which uses such quotas for natives in nearly every faculty, has its own

SOCIAL RESPONSIBILITIES

To measure the commitment of 15 universities to change, *Maclean's* distributed a questionnaire on campus diversity and access. Here's the findings:

- More than 90 per cent of the universities reported that they have a recruitment officer on staff.
- Only 60 per cent offered special orientation sessions for returning students.
- Only 14 of 15 universities reported that they required first-year students to take a test writing or an English proficiency test—but only 60 per cent of these students passed.
- Only 14 schools publish a student evaluation of courses in an annual guide (UBC, McGill's, Dalhousie, McMaster, Mount Allison, Mount Allison, Ottawa, Cape Breton UCCSB, Toronto, West Brunswick, Western, Windsor and York).
- At only 12 schools do women hold more than 25 per cent of vice-dean, deans offices or dean positions. Mount Saint Vincent (80%), Mount Allison (67%), Trent (50%), Lakehead (40%), Concordia (33%), Acadia (30%), Queen's (30%), Windsor (31%), Carleton (29%), Wilfrid Laurier (22%), Brandon (20%), Toronto (27%), York (27%).

ALBERTA MAVERICK

Faced with an era of financial restraint, Paul Davenport tries a different approach

plan to close the petroleum engineering department—whose depressed enrolment reflects the currently depressed state of the oil and gas sector still. In the end, the department survived. Notes Davenport: "The industry made a strong case for how important this department was to Alberta."

The University of Alberta's brave new world of restructuring is not limited to budget cuts.

Davenport has also championed the use of modern technology at the university, including what he calls "a three-optic highway." That project is a \$2.5-million, high-speed computer network that will eventually link the university with other campuses, libraries and research centres around the world. "Our faculty and researchers will be in direct contact with European and North American centres," says Davenport, who was appointed the university's 18th president in August, 1999. "Such computer power will add to our ability to deal with complex research problems."

Regional co-operation in university programs is also a major priority for Davenport. "I want the University of Alberta to drive the process," he says. Some examples already exist: the University of Saskatchewan provides the only veterinary degree program for all three Prairie provinces, while Saskatchewan students in occupational therapy study at the University of Alberta and the University of Manitoba. As well, the University of Alberta and the University of Calgary are using video links on both campuses to offer a joint master's-level course in transportation. "Students have access to the best professors in the field."

Davenport says. "The dream of graduate studies at both schools and working to identify areas of strength." Davenport's approach to handling problems may not be suitable for some universities. "In larger universities, it is easier to identify programs to be cut," notes Brian Skuse, vice-president, academic, at the University of Regina. "In smaller institutions where you have a narrower range of programs, it is more difficult to cut without doing damage to the core programs." Skuse also cautions that vertical cuts may not represent a long-term solution to the budgetary crunch. "Some of the early ones are easy to identify—but it gets tougher later," he says. Still, Davenport remains committed to his vision. "If budgets continue to decline, we cannot do everything and be excellent," he said. "We will build on our strengths—and continue to make tough decisions."

JOHN HOWSE in Edmonton

It has office at the end of a long corridor along with 19th-century Japanese prints. University of Alberta president Paul Davenport points to a 40-page document that is, in effect, a challenge to university administrators across the country. Titled "Maintaining Excellence and Accountability in an Environment of Budgetary Restraint," the document details Davenport's vision of how his sprawling, 34-year-old Edmonton campus must function in an era of financial restraint. The threat is real: Alberta's Conservative government has added measures to analyse the impact of budgetary cuts. "It means that the University of Alberta must set its own priorities," Davenport, 45, said in an interview. "We must be selective to maintain excellence—and realize that we can't be all things to everyone."

Davenport, a New Jersey-born economist educated at California's Stanford University and the University of Toronto, is not silent in his dilemma. But what distinguishes him is a boldness rarely in his university's approach to the problem. Rather than slash funding across the board, Davenport and his five vice-presidents have targeted specific departments—while protecting the University of Alberta's traditional areas of expertise, including civil engineering and Chinese studies. The amounts to be saved by those so-called vertical cuts are modest: \$2.8 million has been pared from the university's 1998-1999 general operating budget, bringing it to \$240 million. But in the next few years, those cuts are expected to total a \$4.3-million saving. Says Davenport, who was a professor of economics at McMaster's McGill University from 1973 to 1988, "Far more important than the amount of money saved is the principle that, as we restrain, we strengthen the university."

That restructuring has taken many forms. The department of agricultural engineering has been closed. Other departments and faculties have been merged: human economics with agriculture and forestry, and library and information studies with education. Other departments, such as applied sciences in the faculty of science, have been reduced by 60 per cent. And Davenport has initiated a \$1.5-million cutback in the budget for successful extension courses. "Some courses competed with other universities," explains Davenport. "We can legitimately ask the users to pay the full cost of some noncredit programs."

While Davenport has the support of his peers, his approach has drawn strong criticism. In some areas, he has proved willing to compromise. The oil and gas industry, for one, voiced opposition to the university's

Alphouse at York 'making things better' for the school's disabled students

challenges," she says. "I didn't have cable television, so I had to depend upon friends in another town who taped the classes for me."

Across Canada, the academic community is also reaching out to the business world, with creative results. Burnaby's Simon Fraser University has set up a special campus along Vancouver's harbour front to service the business community. Mount Saint Vincent is in the process of raising \$500,000 to launch a program to support women in business. At the same time, working professionals are contributing to advisory boards on curriculum, standards and other matters. One of the most successful alliances has been the establishment of co-operative programs. The knowledgeable leader in that field is the University of Waterloo, in Waterloo, Ont., reporting 10,000 students a year to a mix of classroom studies and practical on-the-job experience. In Quebec, the Université de Sherbrooke has made a large commitment to co-op, with 17 undergraduate programs such as business, engineering and computer science.

The barriers between the campus and the surrounding community are also beginning to blur. A case in point is York University's Wexner Faculty of Schools Project. The brainchild of Stan Shapiro, the university's dean of education, the program takes education students and puts them in a tough, educationally sound high school in Toronto's Jane-Park corridor, trying to train teachers in the special needs of the students at that school. "When I first heard that we had a student at Westview, I was a little uneasy," says Barbara Nyman, 32, a third-year education student. "The same student me told a trip backwards. Now we I think it's one of the best things that has ever happened to me." The ever-changing nature of campus clearly offers not just a new look, but new opportunities and challenges, as well.

JOHN DAVENPORT is the vice-president and vice-chancellor at the University of Alberta. JOHN HOWSE is Calgary and JILL QUINN is Vancouver.



transition-year programs and a special native-studies program, as well as a native student service to provide personal assistance and career counseling. The university's native enrolment has doubled in the past decade to an estimated 350 this semester.

One of them is Jane Auger, a 25-year-old Cree from the top hamlet of Wollaston who said that her confidence was a low ebb when she enrolled in the University of Alberta's transition-year program in 1991. "There were more than 30 of us and, from the start, they took us by the hand and guided us around campus," recalls Auger. She also benefited from group meetings with a psychologist and regular tutorials to help prepare for exams. "It was a good experience," she says. It was so good that, after passing the transition year with honors, Auger is now enrolled in the first year of Alberta's native studies program, hoping eventually to study law.

The modern campus has gone geographic limits. University satellite campuses are popping up in cities and rural areas throughout the country. And technology extends the outer edge of academia even further as more students, particularly in rural areas, are taking degrees long distance. One leader in that area is St. John's, 500-based Memorial University, which is trying to spread higher education to the outposts. Each semester, more than 2,000 students sign up for the 75 to 80 courses the school offers through a combination of correspondence classes and audio and videotapes, as well as teleconferencing available through facilities located in 180 communities across the province.

With that new technology, students are completing degrees without ever setting foot on campus. One recent graduate is Lynn Ann Dunn, 47, a supervisor with community and residential services for the Prince Edward Island government, who lives in the remote village of East Bay, 100 km east of Charlottetown. In the spring of 1981, Dunn completed her gerontology certificate from Mount Saint Vincent after seven years of televised classes. "It was quite a



SPECIAL REPORT

GENDER AND THE NUMBERS

Women still sky away from math and science

The atmosphere is tense. A young woman in a severely tailored suit and dark-rimmed glasses stands warily at the head of a table, confronting a group of scowling middle-aged men. A voice across the television screen that Nicole despises "lies once" and is about to reveal her latest model. Clearly apprehensive, Nicole nods assentively as it is time to reveal the vehicle. After a brief pause, and the exchange of some surprised looks, the men offer their grudging approval. Nicole is obviously relieved. Her ordeal is over, and she is apparently grateful that her assignment has been

her further humiliation. "Those ads carry exactly the negative stereotype that we are working so hard to debunk," says Jane McGuire, a civil engineer who worked with the Canadian Committee on Women in Engineering (CCWE), based at the University of New Brunswick in Fredericton. "They depict a male-dominated, patriarchal environment that's intimidating to women and their children. What young women would ever want to face those creepy guys—let alone have to work with them?"

The answer is a mixture of increasing concerns in both academic and professional circles

McGuire working to debunk negative stereotypes

In an age in which technology and efficiency are closely linked, the reluctance of Canadian women to study math, science and engineering is an increasing cause for alarm. "Engineering and science are a critical component of Canada's strategy for a competitive, knowledge-based society and economy," says Micheline Bouchard, president of the Ottawa-based Canadian Council of Professional Engineers (CCPE) and a vice-president of Interlink for Data Group Inc. of Montreal. "For that to work, we need to promote more women." Adds Charles Edmunds, a mathematics professor at Mount Saint Vincent University in Halifax: "The truth is that subjects like math are the cornerstone for anyone who wants career options."

As awareness of the need for Canadian women to expand their options has grown, educators and professional organizations have combined forces to address some of the underlying problems. Together, they have launched campaigns and campus workshops to provide girls and young women with information about science-related jobs. Educators are now paying greater attention to the teaching of science and mathematics at all levels, while trying to foster a more relaxed environment. In many cases, that environment may exclude males. Since 1989, when an anti-feminist gunman assassinated 14 female engineering students at the Université de Montréal, administrators have been acutely aware of the potential for conflict

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when women cross traditional gender boundaries.

In some fields, women are already making huge strides. In fact, female enrollment has begun to surpass that of males in medicine, veterinary science, dentistry and pharmacology at the University of Montreal. There, 63 per cent of the students training to be medical doctors are now female; notably, the percentage stood at 48 per cent in 1980, up from 24 per cent in 1975. At the veterinary medicine program at the University of Guelph, 65 per cent of the 430 full-time undergraduate students are female, as are 34 per cent of the department's faculty. Experts credit those figures to the maturing element of these disciplines. Studies show that while boys respond to such factors as salary and job security, girls tend to list service to others as key considerations in choosing a career. "Girls know that doctors are curing," says UofM's McGinn. "But an engineer is a big guy with dirty fingerprints who works alone in a basement somewhere."

The available statistics prove McGinn's point. According to the latest report *Where They Just Numbers*, released last April, women accounted for only 14 per cent of those enrolled in engineering and applied science programs in 1989-1990. Their participation in mechanical and physical science courses was only slightly higher at 27 per cent in the same period. And the situation is growing more bleak as the generation of engineers and scientists who have dominated their fields prepares to retire. "By the mid-1990s,

there will be a huge vacuum to fill," says Douglas Goldbach, dean of engineering and science at Laurentian University in Sudbury, Ont. "We just don't have the people in the pipeline to replace them." According to industry association estimates, Canada will have 28,800 new engineering jobs by the end of the decade—and only 11,600 engineers will be there to fill the spaces.

Several organizations are campaigning to attract women into engineering, scientific research and computer science. The National Committee of Deans of Engineering and Applied Science have joined forces, encouraging employment equity in the hope of placing more women in the classroom. They have also clamped down on some of the traditional stereotypes of engineering students including sexist and racist humor in student newspapers. Further support comes from the Natural Sciences and Engineering Research Council's federal funding agencies, which has scholarships designated specifically for women. Corporate spons-

ors such as Northern Telecom are funding several seminars, including the Women in Engineering Chair at the University of New Brunswick, currently held by electrical/biomedical engineer Monique Fries.

But despite such concerted efforts, the progress is slow. "There is a deeply ingrained social perception that academic and technical tasks are not for women," says Gerry Walker, assistant dean of undergraduate engineering programs at the University of Saskatchewan. And, he cautions, "even for engineering, there's a bad reputation basically—they are kids of horror stories from the campus and the work site."

Recent campus events have compounded the image problems of science-related studies.

One is the case of engineering. "They are so used to quashing everything and this course is about issues—not about cost problems with clear solutions."

However, Rita Wharrie, an engineer and the director of Ontario Hydro's aggressive employment equity program in Toronto, is reserved about the narrow emphasis of what she calls "politically correct" measures. "All these initiatives are on the defensive because of their poor record of attracting and retaining women in their ranks," notes Wharrie. "The danger is that they are all preoccupied with the public image rather than concentrating on actual, fundamental change."

But to bring about profound changes, experts say that a host of social and gender issues

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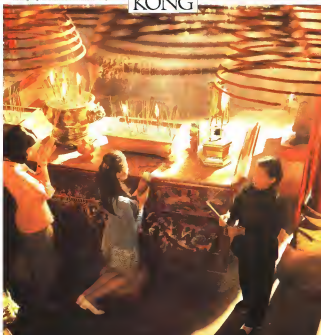
Veterinary students at Guelph are attracted to scurrying disciplines

In October, the student engineering newspaper at the University of Montreal, where the 1988 massacre took place, published a special "sex" issue that included pornographic drawings and other overtly sexist material. One week before, at Ottawa's Carleton University, the photographs of 22 female physics students stolen from a file, (the theft was followed by anonymous telephone calls that threatened that 12 students would be killed).

Many schools have introduced courses for science and engineering students designed to combat attention on the campus and beyond. At the University of British Columbia in Vancouver, engineers must complete "The Engineer in Society," a compulsory course introduced in 1990. Elective seminars entitled "Gender and Sexual Ethics" are offered to engineering students at the University of Guelph. "Subjects were asked to accept the course as something serious," says Axel Messer,

must be addressed long before women reach university. A subtle socialization process begins in early childhood, contributing to women's unwillingness to participate in fields of study dominated by men. Most recently, the controversy over the new talking Barbie doll, whose conversational prompts include the observations that "math class is tough," has underscored the problem of preparing girls for success in mathematics and sciences.

Barbie's whine—which Mattel now claims it will exchange upon request—does not come out of the blue. For years, girls who had trouble with math and science received less attention than boys. "When a boy has trouble with math, it's never excused or overlooked," notes Mount Saint Vincent's Edmunds. "It's considered as important matter because it's assumed that he'll need math later in life." Even for those girls who did excel in math, the message from peers and teachers was little



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SPECIAL REPORT

more meaningful. Patrice Rogers, a professor of mathematics at York University in Toronto, was educated at an all-girls school—a factor that some experts claim can improve academic performance. Still, her ability as a mathematician caused her some early discomfort. "Math was always seen as cold and rational and very austere," she says. As a result, Rogers recalls "compensating for my math skills by participating in be-levolism and religious activities."

To change that, educators are going far beyond superintending accuracy. The primary focus of the burgeoning number of university "outreach" programs is point girls and those who teach them. The objective is to provide female role models, current information about science-related careers, and to shatter the perception that science and mathematics are for boys alone. Says CPE's Beuchard: "Girls strongly believe that engineering is about hard hats and work boots. It's generally as well as a career that lacks heart." CPE's McGinn agrees, "We need to soften the face of such professions and emphasize their creative, nurturing aspects."

To educate boys and girls about science-related professions, the women-in-engineering group at CPE has prepared a video featuring women in engineering for junior high school students. For the past five years, Simon Fraser University in Burnaby, B.C., has invited hundreds of high-school girls to a variety of facilitated mathematics and science workshops and demonstrations in the same vein. Students from the University of Saskatchewan explore around one-week "on-site camps" for children in Grades 5 to 8, with the aim of demystifying science laboratories and showing that both math and science can be fun. Patrice McGinn: "It's equally important for boys to have been exposed to the example of women in science. It helps them accept that fact in later life."

Textbook methods and tools have also reinforced the message that math and science are not for girls. Until relatively recently, mathematics problems in textbooks were often couched in terms of engineers and scientists typical of boys. "It's critical to make math and science relevant to the lives of women, to humanize these subjects," says Katherine Heinrich, chair of the mathematics and statistics department at Simon Fraser. "Why should the images always involve cars and tools? What about hair dryers and mauls? They involve math and science too."

But Heinrich also notes that the teaching of itself children has traditionally been the job of women, many of whom are uneasy with math and may communicate that uneasiness. "We teach a math course for elementary school teachers, 90 per cent are women and 90 per cent of them are afraid of math," says Heinrich. Laurence Goldstein is especially critical of the lack of special training of grade-school teachers responsible for these subjects. "You can't get an in-service program to teach the people without training students at," he says.

Another common problem is the fact that girls mature at a different pace than their male classmates, and deal with that development in a different way. Although those differences are apparent even in primary school, when girls tend to be more emotionally sensitive than boys, the crisis tends to arise after puberty. According to a comprehensive study conducted by Carol Gilligan, a professor at Harvard University in Cambridge, Mass., girls' self-confidence as students in their early teenage years, and they lose their willingness to speak openly and to take risks. The tendency to internalize failure, always present in younger girls, also becomes more pronounced at that phase. After that, few students admit that while boys usually

willingness to take intellectual risks to solve more complex math problems," says Heinrich. "By exact, you have to be willing to take leaps and learn from your mistakes." Where that confidence is lacking, Heinrich's department at Simon Fraser works to improve it with a math anxiety class, staffed by a female faculty member, Melvina D'Amico. Women are encouraged to confront and resolve their anxieties about mathematics.

At the same time, faculties of mathematics, science and engineering face a shortage of female instructors. According to data compiled by the Canadian Engineering Human Resources Board, only two per cent of full-time engineering faculty members in 1990 were



Make an academic problem on the teacher, the textbook or any other external factor, girls blame themselves. Boys also openly mock others who show weakness, compounding girls' anxieties in math and science classes.

Discouraged by classroom situations—and the fact that female high school students only account for 52 per cent of physics classes in Calgary—teacher Rudy Blanchard introduced a girls-only physics class at William Aberhart High School three years ago. "The problem was the class dynamic," says Blanchard. "The boys try to boost their egos by showing off whatever small amount of expertise they have—and putting down others. It's pretty brutal behavior and very embarrassing for the girls." Among themselves, however, Blanchard notes that the girls "speak out more freely and stick to the topic much better."

Improving confidence at the high school level has a direct effect on the students' performance at university. "You need confidence and a

Heinrich
fostering math
you need a
willingness to
take intellectual
risk!

women, and 35 per cent of universities had as women professors in engineering at all. To remedy that, most Canadian universities have implemented aggressive employment equity initiatives, backed by salary grants from the federal government, to boost the number of women in their ranks. "A woman with a PhD in engineering could win her own ticket at any Canadian school," says University of Saskatchewan's Walker. "There's enormous demand."

Still, the best intentions of the university drama cannot alter the abjectly sexist, hierarchical culture of most academic institutions, says Rita Wharrie. "At the corporate level you have a clear policy and a boss who can enforce it. But at a university, professors have no real boss and there's no system to enforce the required changes—especially in attitudes." As some women are encouraged to enter the science, however, attitudes are certain to change. "Ultimately, the numbers will add up."

DOUGLAS MCKINNEY



Japanese classrooms teaching students the value of hard work

SPECIAL REPORT

GIVING KIDS A HEAD START

What Canada can learn from other countries

As a Grade 6 pupil in Tokyo, 11-year-old Tadayasu Suzuki attends class six days each weekday from 8:50 a.m. until 3 p.m. But unlike his counterparts in Canada, Tadayasu has little time after school to play with friends or watch television. As soon as he gets home, he begins his homework—an average of two hours a day. Then, from 6 p.m. until 9 p.m., four times a week, he studies earth and Japanese at one of Japan's famous *juku*, privately run cram schools that offer students extra tutoring. Even his weekends are not entirely free: on most Saturdays, public-school classes throughout Japan run from 9 a.m. until shortly after noon. Still, Tadayasu does not seem to mind

the work load. "I like school, especially math," he explains. "I get a lot of time memorizing my math drills because that I can work faster."

Tadayasu's schedule is demanding by Canadian standards, but it is one reason why Japanese elementary and high-school students routinely score higher than North American students in math and science achievement tests. And Japan is not the only country in which elementary and high school educational standards appear to be higher than in Canada. A recent study by the Economic Council of Canada noted that a third of all Canadian students fail to complete secondary school. In contrast, the dropout rate is less than two per

cent for the shortcomings in Canada's educational system, however, the study said that many of the differences stem from social and cultural values. Japan and Germany promote achievement by instilling in young people a strong work ethic and self-discipline, while Canadian children are exposed to an "anti-authority, highly individual, pluralistic and equity-oriented society."

One of the most obvious differences between Canada's educational system and those of many other industrialized nations is the length of the school year. In both Canada and the United States, the educational calendar has remained relatively unchanged from the 19th century, when North America was a largely rural society and parents wanted their children at home during the summer months to help with the crops. As a result, the Economic Council of Canada report noted, the school year in North America is one of the shortest in the world—180 to 185 days, compared with 245 days in Japan and between 228 and 240 days in Germany.

In any respects, the German and Japanese school systems are also more rigorous than Canada's. Both of those countries reject the North American ideal of universal access to higher education—the conviction that every student who fulfills the minimum requirements for a high-school diploma has the right to go to university. In contrast to Canadian schoolchildren, young Japanese and Germans learn at an early age that their performance in the classroom has a direct bearing on their career opportunities. In Germany especially, those who fail to receive high marks are steered towards vocational and technical programs,

not in Japan and less than 10 per cent in Germany. Compared with those two countries, the study added, "Canadian society does not show such a widespread, strong commitment to education, and Canadian children do not seem to receive the appropriate signals to perform to the best of their abilities."

An Alberta government report last March painted a similarly debasing picture of education in Canada. It found that children in Japan and Germany, among other countries, learn math and science in greater depth and at an earlier age than children in Canada. In Europe, physics and chemistry are introduced as separate subjects as early as Grade 6, while in Alberta they are not taught until Grade 10. Rather than blaming teachers and educational systems, however, the study said that many of the differences stem from social and cultural values. Japan and Germany promote achievement by instilling in young people a strong work ethic and self-discipline, while Canadian children are exposed to an "anti-authority, highly individual, pluralistic and equity-oriented society."

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with little hope of attending university.

In equator-crossed North America, many parents would support a system that made their child's future depend on a large extent on her marks in elementary school. But critics of Canada's educational system say that the German approach simply reflects reality: not every student has the talent to succeed in a purely academic program. "Germans recognize that children are going to have very different futures," said Mark Holmes, a professor of educational administration at the Toronto-based Ontario Institute for Studies in Education.

"Rather than getting everyone through the same kind of program, they start preparing children for different futures at an early age."

Although the regulations differ slightly in each of Germany's 36 states, the movement of youth for most German children comes at the end of Grade 4. Depending on their marks, they enter either a *Realschule* (which offers basic vocational instruction), a *Realschule* (they receive advanced vocational and management training) or a *Gymnasium* (an academic high school that prepares students for university). Students who get high marks in vocational and technical schools can switch later into an academic program, but a total study school is third of young Germans attend university prep schools.

The system succeeds, in part, because of the high quality of industrial training in Germany—an achievement that has helped to make the country a world leader in such fields as electronics, aerospace and transportation. After Grade 10, students in vocational programs usually begin 2½- to three-year apprenticeships in industry or business, during which they continue their studies part time. For many, the system offers more than practical experience—it offers direct access to a career. "People who are certified under the work-study program have a good reputation," said Christian Scholz, 21, a former trainee at Deutsche Bank in Berlin who now works there full time.

In Scholz's case, the 2½-year program combined 14 hours a week of study at Berlin's Vocational School for Bank Employees, where she took classes in accounting, economics and politics, with 27 hours a week of on-the-job experience, for which she was paid roughly a third to a half as much as a full-time employee. "I don't know how it compares with other countries," she said, "but we receive good training here—absolutely vital. I would say far today's tougher job market."

In some respects, Japan's school system is even more demanding. While North Americans

tend to be the view that academic success depends largely on innate ability, Japanese educators insist that the key to success is hard work. The same ethic is reflected in all other levels of Japanese society. Even in baseball, Japan's most popular team sport, the biggest stars tend to be players who spend endless hours in grueling workouts, rather than those who have the best individual statistics.

As a result, elementary and high-school students in Japan devote far more time to after-

school on the philosophy that if he is happy and gets good marks, then everything will be all right," Yumoto said. "But I now realize that this is not enough."

Because of the vast cultural differences between Japan and North America, it is clearly unrealistic to expect that Asian attitudes will ever take hold in Canada. Moreover, defenders of Canada's educational system say that both the Japanese and German approaches are inappropriate because they emphasize economic



Photo: David J. Phillip

High school classes in Calgary, held back by an 'swallow' society

school study than their counterparts in North America. According to the Alberta study, only 20 per cent of secondary students in Japan held part-time jobs, compared with an estimated 58 per cent of Alberta students. In the early grades, the curriculum emphasizes the importance of co-operation; teachers often assign problems not to individuals but to teams of five or six children, who are ranked according to their group's achievements. Capital punishment is common and is encouraged by parents, who believe in the need for strict discipline.

The pressure on Japanese children to do well is reinforced by their mothers, with few of them working outside the home. "I supervise my children's homework every day," said Utsumi Yumoto, 36, the mother of two boys, aged eight and 13. "Personally, I wish that they had more play time, but Japanese society is fast-paced and very competitive, so they might as well get used to the system right now." She added that both of her children spend 30 minutes to an hour daily on homework, but she also made them to study schools because she does not think the public school system is sufficiently demanding. "I brought up my first

son on the philosophy that if he is happy and gets good marks, then everything will be all right," Yumoto said. "But I now realize that this is not enough."

Because of the vast cultural differences between Japan and North America, it is clearly unrealistic to expect that Asian attitudes will ever take hold in Canada. Moreover, defenders of Canada's educational system say that both the Japanese and German approaches are inappropriate because they emphasize economic

needs over other, less tangible goals such as individual expression and fulfillment. Said Donald Munro, a professor of elementary education at the University of Alberta: "I object to the fact that people want to retread our educational system so that it is tied tightly to economic strategy. If you adopt a narrow focus on math and science, what happens to fields like the arts and music?"

That position is widely supported in Canada. Indeed, a common complaint over in Japan is that the country's educational system puts too much pressure on children and discourages creativity. Tadayuki Sasaki, the 13-year-old Tokyo student who enjoys mathematics, appears to agree. "It would be better if we had more music and more plays because I like plays very much," he said. Despite that, Japan's policy-makers are in no hurry to overhaul the country's school system. As long as Japan maintains its educational lead over Canada and the United States, the pressure for reform is far more likely to come from parents on this side of the Pacific Ocean.

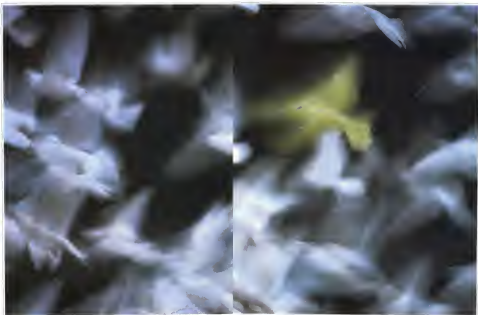
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THE NEW NISSAN
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THE BIG BOOK BANG

An information
revolution
is forcing
libraries to
undergo a
dramatic
transformation

I t was just past 7 p.m. on Oct. 6 when Sean Reid sat down in his dormitory room, hunched over his desktop computer and glomped the corpus of the future. The 20-year-old Ottawa native had been attending my Mount Allison University in Sackville, N.B., for a month when his room became the first on campus to be wired to the school's computer system. Within minutes he was sending messages to friends. Later, the political science major accepted the files at the University of Minnesota for information on the U.S. presidential race. And soon, Reid was using the computer to search a catalogue of Mount Allison's own library holdings. "As far as convenience, it's the best you can get," says Reid. "All of a sudden I feel like I'm in the big city instead of the backwoods—I can never go out again."

Reid is not likely to look himself away just yet—he still has to pick up his books at the library. But he is clearly caught up in an information revolution one that has forced university libraries to transform themselves

only, particularly scientific journals, has gone through the roof. According to a study published in the *Canadian Library Journal*, the average annual price of periodicals in 1992 was \$265.82 per title—10.5 per cent higher than 1991, an increase that far exceeds the 1.6 per cent inflation rate. Librarians have been forced to cut subscriptions, books or both—a belief that often pits science, which still relies on journals for current information, against the arts, which depend more heavily on books.

When Eske went to Mount Allison in 1987, 80 per cent of the library's collection budget was spent on journals and only 20 per cent on books, compared with a 50-50 split three decades earlier. "The journal budget was eating up the book budget," Eske says. "We were getting about 3,500 books a year when we felt that an acceptable lower limit was 6,000." Meanwhile, a study by the Canadian Association of Research Librarians found that 85 per cent of its members cancelled 40,486 subscriptions worth over \$4.2 million from 1978 to 1985.

Even as they juggle budgets, libraries have adopted expensive new technologies. At Mount Allison, Eske spent more than \$100,000—donated by students and alumni—on software and hardware changes to computerize the library. "You could have found people who said, 'We don't have enough books,'" he says. But he argues that automation substantially increases library use. Says Eske: "These machines provide more bang for your buck."

Technology may also offer a solution to the cash crisis. Since automation is now linked to computer services that allow users to scan serials orders and order copies of articles for a fee—providing access to journals the library cannot afford to buy. And many schools are looking for ways to share resources. Among the networks pioneers is Bowdoin in Nova Scotia, where seven universities and a school of theology have linked their library catalogues by computer.

Still, some librarians argue that their budgetary problems will not be solved until scientists find ways to disseminate their research articles through means other than expensive journals. And others express concern that the technological revolution could go too far. "We cannot not buy these things," says Ted Doherty, university librarian at Simon Fraser University in Burnaby, B.C. "The pressure from students and faculty to keep up with the latest advances is too intense. But he adds, "We were to have fallen in love with the technology. I hope we wouldn't be surprised and come to believe that just because the bang is available, it must be OK."

MARY McINTYRE with JIMMY DeMONT in Halifax



Reid: "All of a sudden I feel like I'm in the big city instead of the backwoods."

even as they struggle to cope with evolving ones. Going high tech is a financial burden in different times. But university librarians say it is a critical step. Tom Eske, who was a librarian at Mount Allison before becoming director of libraries at the University of Calgary this fall, says that more people than ever are writing books or doing scientific research. "The expert is now facing us," says Eske, "so controlling the big bang of information—it is technology that is going to solve the major problems we face."

Those problems are skyrocketing real estate, book prices have increased substantially the cost of period-

CLASS OPTIONS

A bounty of educational riches

Each of the 41 universities in Manitoba's 2002 survey has a unique mission and distinctive role. The universities present a broad spectrum of new approaches to higher education, differ dramatically across the academic landscape. In the breakdowns below, the year the school was founded is cited to provide context, rather than for modern graduates arts and science courses

ACADIA Pictou, NS (1862)
President: James Purvis. Full-time students: 2,501 Part-time students: 316 Tuition: \$2,625

Originally founded as a Baptist college, Acadia now has no religious affiliation, but it does have an outstanding undergraduate honors program and an excellent student literary critic. Although small and relatively remote, Acadia has a fairly large proportion of international students from such countries as Malaysia and Libya. Chemistry professor Melvin Opler won the 1992 \$100,000 Manning Award, known as "Canada's Nobel."

ALBERTA Edmonton (1907)
President: Paul Duenpiper. Full-time students: 24,963 Part-time students: 4,222 Tuition: \$1,650

Canada's second-largest university is known for full-time students after the University of Toronto. Alberta offers an exceptional range of undergraduate courses. Its medical school and teaching hospital are renowned for ground-breaking research in diabetes. And as a 1992 honoree for its myositis clinic, the University of Alberta offers its own online complex of sleep and mood disorders.

Distinguished alumni: Former prime minister and current Minister of Constitutional Affairs, Joe Clark; former Alberta premier Peter Lougheed; writer W. O. Mitchell

BIRCHMOUNT Lethbridge, Que. (1943) Principal: Hugh Scott. Full-time students: 1,752 Part-time students: 789 Tuition: \$1,500

Set in the rolling hills of Quebec's Eastern Townships, Bishop's draws students from each province and territory. Renowned for its school spirit, Bishop's is committed to limiting its full-time residential tuition-coasting on undergraduates. As a result, the school has an excellent student-teacher ratio.

Distinguished alumni: Premier Phipps; former Minister of Industry, Norman Robertson; editor of the Montreal Gazette.

BRANDY Brandon, Man. (1895) President: Dennis Anderson. Full-time students: 1,651 Part-time students: 2,088 Tuition: \$1,860

Brandon established a groundbreaking program in nature studies in 1975. It now offers classes in wildlife biology and courses in Cote St. Francis, Sioux and Inuit languages. Almost one-third of Brandon students are status Indians. Distinguished alumni: former RSP leader Timothy Baugh; longtime art and parliamentary expert, Stanley Simons.

BRITISH COLUMBIA (1902) Vancouver (1908) President: David Swagway. Full-time students: 23,220 Part-time students: 7,520 Tuition: \$1,860

The sprawling, forested campus contains a golf course, Japanese garden and a museum of wildlife policy featuring one of the world's

best Northwest Coast Indian collections. Although noted for its strength in conservation, forestry, engineering and biotechnology, UBC offers a diverse range of courses in almost any discipline. The university has also forged strong links with the Pacific Rim, with more than 90 courses focused on Japan alone, as well as numerous joint projects and exchanges throughout Asia.

Distinguished alumni: retired CBC correspondent Joe Schlesinger; former prime minister John Turner; columnist Allan Fotheringham; R.C. Premier Michael Hargrett

BROCK St. Catharines, Ont. (1864) President: Terrence White. Full-time students: 6,911 Part-time students: 4,368 Tuition: \$2,500

Nestled in Ontario's Niagara region, Brock offers a small-scale alternative to universities in Hamilton and Toronto. Most courses are taught in seminars, allowing students to debriefers in an at-at-at-at



Brock's Richardson

Francis Richardson was named top professor in Canada by the Council for Advancement and Support of Education.

Distinguished alumni: Christina Pickens; co-host of CBC's Newsworld's *Business World*; Karl Kaiser, co-owner and partner of Kaiser's Wine.

CALGARY Calgary (1996) President: Murray Fraser. Full-time students: 12,861 Part-time students: 4,368 Tuition: \$1,750

Since becoming autonomous from the University of Alberta in 1989,

Calgary has emerged as a leader. Canadian research university boasts seven government-sponsored research institutes called Federal Centers of Excellence, as well as numerous other research facilities including centers dedicated to Arctic studies, space exploration and petroleum engineering. It also offers the country's only combined engineering and business degree. But the university may be best known for its Olympic-caliber athletic facilities, which are arguably the best in North America.

Distinguished alumni: Dr. Robert Thériault, Canadian astronaut; Rhodes Scholar John Evans, member of the 1980 Canadian Olympic basketball team; broadcaster George Bell, winner of the American Shastika Award's 1990 Outstanding Achievement Award.

CARLETON Ottawa (1942) President: John Rangan. Full-time students: 14,970 Part-time students: 8,968 Tuition: \$2,800

Carleton was Canada's first school to offer courses in gerontology. The school now offers both undergraduate and graduate gerontology programs that attract students from across the country. Drawing on its position as the nation's capital, the university also offers excellent programs in public administration, political science, international affairs, international studies and Canadian cultural studies.

Distinguished alumni: Angus Reid, founder, the Angus Reid Group polling firm; Senator Joyce Barbaree.

CONCORDIA Montreal (1974) Rector: Patrick Koneff. Full-time students: 13,948 Part-time students: 22,322 Tuition: \$1,654

One of Canada's most progressive universities, Concordia attracts creative undergraduates to its fine art, film and highly respected communications studies programs. Renowned for its associative approach to education, Concordia was the first university in the Western world to set up post doctoral programs with universities in the People's Republic of China. As well, it established Canada's first women's studies program with the Science de Religion Institute in 1978.

Distinguished alumni: novelist Marlene Kishler; Ross Garnau, co-host of CBC's *Pink Dot* with-recipient World Kishler.

DALHOUSIE Halifax (1818) President: Howard Clark. Full-time students: 9,129 Part-time students:



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Known across research powerhouses of Atlantic Canada, Dalhousie is also one of Canada's oldest and most respected universities. Home to 13 research institutes, including the Atlantic Institute of Neuroscience and the Centre for African Studies, the school offers a wide variety of graduate programs. The previous year school has graduated a Who's Who of Canadian environmental scientists, including New Brunswick Premier Frank McKenna. Other distinguished alumni include Kathryn Sullivan, first American woman to walk in space; Prince Edward Island Premier Joe Ghisla.

SELWICK Guelph, Ont. (1964)
Acting President: Jeff MacDonnell
Full-time students: 12,465
Part-time students: 1,529
Tuition: \$1,894

Guelph has established an international reputation for its agriculture and veterinary medicine programs. As well, the university has developed numerous approaches to arts

and science education, offering degrees that focus on ecology, human settlements and international development. A first-year program called Abundance allows students to live and study together while working under a small group of mentors. Distinguished alumni include vice premier Audrey McLaughlin, singer and songwriter Jane Siberry, actor Oscar John Kenneth Culbreth.

LAKELAND Thunder Bay, Ont. (1946)
President: Robert Beukert
Full-time students: 4,735
Part-time students: 2,568
Tuition: \$1,893

Lakeland has reflected much of its curriculum to reflect the environment and natural resource economy of Lake Superior's north shore. The biology program, for example, emphasizes insect management of northern boreal forests. Not least the rugged wilderness of northern Ontario, Lakeland was the first place to establish Canada's first

hatcher program in outdoor recreation. The university also invests heavily in its Motor Access program, which brings about 150 novice students to Lakeland each year. Distinguished alumni: Ontario Liberal leader Lee McLeod, actor-activist Gopu Kishanadas.

LAURENTIAN Sudbury, Ont. (1963)
President: Peter Fink
Full-time students: 4,751
Part-time students: 2,706
Tuition: \$1,594

Officially bilingual, Laurentian awards graduating students a certificate of bilingualism upon passing a written and oral language test in their second language. Although known for its studies in mining engineering, Laurentian has become a world leader in ecological recovery research. Distinguished alumni: Ontario politician Alex Newman; Donald O'Connor, deputy solicitor general, province of Ontario.

students with special interests. Markov's been not to include them in the current ranking of universities.

Five of these specialized universities are as rooted in their individual community as Université Sainte-Anne. Students and faculty residents share the use of the university's swimming pool, history centre and theatre. About one-third of Sainte-Anne's students come from the surrounding area, with the rest coming from other places in Nova Scotia and the balance from other parts of Canada. Marvella Paulo-MacWilliams, a director of the education department, has designed an education curriculum specifically for those who will be teaching French as a minority language. According to her, the student teachers are groomed to help children maintain their French while living in an environment dominated by English language and culture. She added that Sainte-Anne's education graduates are trained to handle the discrepancies between majority-language French and standard French.

Several former graduates, including Laurent Beaudin, chairman and chief executive officer of Montreal-based Bombardier Inc. and Austin Burke, Roman Catholic archbishop of Halifax, have supported the university's efforts. But at Saint Anne's the focus is on the problems of the surviving francophone students. Lessons are it is not merely a subject for academic theories.

BY ARCY JENSEN

LAVAL Quebec City (1863)
Rector: Michel Gervais
Full-time students: 26,779
Part-time students: 19,960
Tuition: \$1,530

North America's first francophone university, Laval graduated many of the architects of Quebec's Quiet Revolution. Laval offers a full range of professional degrees, attracting a large number of students from French West Africa and other French-speaking countries around the world. It places heavy emphasis on research, participating in 10 government-sponsored Federal Centres of Excellence, notably robotics and genetics. Distinguished alumni: Liberal leader Jean Charest; poet and singer Gilles Vigneault, publishing magnate Conrad Black.

LETHBRIDGE Lethbridge, Alta. (1962)
President: Howard Tremont
Full-time students: 3,659
Part-time students: 488
Tuition: \$1,593

A small university with a focus on interdisciplinary education, Lethbridge insists that its students take a mix of humanities, social sciences and natural sciences. Lethbridge also offers a four-year degree at Native American Studies, covering such areas as self-government and aboriginal economic development. Distinguished alumni: Terrance Ross, president of the Nova Scotia branch, Larry Little Bear, legal adviser to the Assembly of First Nations.

MANITOWA Winnipeg (1977)
President: Arnold MacIsaac
Full-time students: 15,476
Part-time students: 9,329
Tuition: \$9,603
(general avg), \$2,537 (in-state)

The oldest university in western Canada, Manitoba is one of Canada's major research universities, with operations in medicine, engineering and agriculture. As well, Manitoba has excelled in serving the needs of non-traditional students, offering non-credit professional, technical and personal-development courses to more than 15,000 people each year. It also offers a special program that encourages native students to take part-time courses to gain admission to medicine and dentistry. Distinguished alumni: Minister Jean Marshall; McLaughlin; former governor general Edward Schreyer; Ovile Mironoff, national chief, Assembly of First Nations.

MCCILL Montreal (1821)
Principal: Don Johnston
Full-time students: 12,465

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body language n. the nonverbal imparting of information by means of conscious or subconscious bodily gestures, posture, etc.



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data 20,112 *Full-time students*
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Obit-dubbed the Ivy League school of the north, McGill draws more Americans per capita than any other Canadian university. The large number of foreign students, who come from 183 countries and make up more per cent of total enrollment, is testament to McGill's international reputation for excellence. Four graduates have won Nobel Prizes since 1907 and the university has produced 89 Rhodes Scholars.

Distinguished alumni: Prime Minister Sir Wilfrid Laurier, poet and musician Leonard Cohen, publishing tycoon Mortimer Zuckerman.

MCMASTER (Hamilton) (1887)
President: Gerald H. Kerney-Walshaw *Full-time students* 22,479
Part-time students 4,137
Tuition \$1,894

Universities around the world, including Harvard, have used McMaster as a unique medical school in the model of integrating their programs. After a rigorous admission process that admits applicants from non-science backgrounds, McMaster students work in small groups and examine the social and psychological, as well as biological, aspects of medical problems. Other programs include the interdisciplinary Engineering in Society program, as well as the combined Arts and Science program, which accepted only 58 of its 1,480 applicants this year. McMaster also houses the world's most extensive collection of Bertrand Russell's work. Distinguished alumni: comedian Morris Short, astronaut Robert Boudrie, Lucien Nordeau, former Ontario lieutenant governor.

MEMORIAL St. John's, Nfld. (1935) *President: Arthur May* *Full-time students* 12,252
Part-time students 3,859
Tuition \$1,700

The largest university east of Montreal, Memorial is well known for its expertise in marine biology, oceanography and its maritime studies. It is also home to Atlantic Canada's only school of pharmacy. Although situated in St. John's, Memorial's extensive distance learning program brings university courses to all parts of the province. Distinguished alumni: former Newfoundland premier Brian Peckford, John Finner, editor of *Saturday Night*, Newfoundland Premier Clyde Wells.

MONCTON (Moncton, *Edmundston and Shippagan*) (N.B.) (1903) *President: Jean-Denis Beliveau* *Full-time students* 2,327 *Part-time students* 2,467 *Tuition \$2,050*

New Brunswick's only francophone university is the world center for the development of Acadia col-

Full-time students 1,537
Part-time students 468
Tuition \$2,625

lege of the small student body serves with average of 46 per cent or better. The university has one of the lowest student faculty ratios in the country and integrates its al-



Threat welcomes international students with an orientation

lege. Moncton was also the first university in the world to offer summer law studies in French. The Agiles Blues, Moncton's hockey team have been the Quebec champs three times in the past decade. Distinguished alumni: writer Antoine Maillet, Senator and former New Brunswick premier Louis Robitaille.

MONTREAL (Université de Monro-
poly (Montreal) (1975) *President: Gilles Gauthier* *Full-time students* 25,654
Part-time students 31,434 *Tuition \$1,627*

North America's largest francophone university has an international reputation for ground-breaking research, particularly in health sciences. With more than 58,000 students, Montreal and its affiliated engineering and business schools are able to offer a huge array of courses. Montreal draws an unusually high number of women to nursing, dentistry and veterinary studies. In fact, 59 per cent of last year's undergraduate degrees went to women. Distinguished alumni: former prime minister Pierre Elliott Trudeau, Sylvie Pelletier, winner of the 1992 Olympic silver medal in solo synchronized swimming, Antonine Lussier, chief justice of the Supreme Court of Canada.

MOUNT ALLISON (Sackville, N.B.) (1843) *President: Jan Newbold*

sen able to participate in research projects with Dalhousie. Mount Allison has produced 41 Rhodes Scholars in 80 years. Distinguished alumni: artists Alex Colville and Christopher Pratt, Senator and former Nova Scotia premier John Buchanan.

MOUNT SAINT VINCENT (Halifax) (1975) *President: Elizabeth Parr* *Full-time students* 3,034
Part-time students 1,537
Tuition \$2,295

Established by the Roman Catholic Sisters of Charity to educate women, the school began accepting men only in 1987. But Mount Saint Vincent remains the country's leader in providing equal opportunities for women, who make up 80 per cent of the student population. The university's emphasis on interdisciplinary fields like child studies—attracts a large number of students with family and work responsibilities. Distinguished alumni: Ralph Lauren and Mary Gaherty, the wife of Levi's senior vice-president and general manager of the Royal Bank of Canada's Montreal headquarters.

NEW BRUNSWICK (Fredericton and Saint John) (1955) *President: Paul Armstrong* *Full-time students* 8,842
Part-time students 2,796
Tuition \$2,350

The second-oldest university in Canada, New Brunswick offers the

history of a small school with the resources of a larger institution. In addition to having the only forestry engineering program in the country, New Brunswick is widely recognized for its excellence in engineering and nursing. Students can also pursue studies in the Atlantic region or Third World. Distinguished alumni: political columnist Dubus Camp, singer Anne Murray, department store mogul Rodda Eaton.

OTTAWA (Ottawa) (1846) *Academy: Mount Allison's* *Full-time students* 12,562
Part-time students 9,415 *Tuition \$1,894*

North America's oldest and largest bilingual university, Ottawa takes its dual-language mandate seriously. In addition to offering almost all programs in both official languages, the university demands that students reach a certain level of proficiency in their second language before they can graduate. It offers excellent programs in human rights studies, public administration, political science and journalism. Distinguished alumni: singer Marc Minkoff, Secretary of State Robert de Groot, Alex Trebek, host of the TV show *Jeopardy*.

PRINCE EDWARD ISLAND (Charlottetown) (1908) *President: C. W. J. Aher* *Full-time students* 2,609
Part-time students 573
Tuition \$2,286

The university has Atlantic Canada's only veterinary program, which draws students and faculty from across the world. But its chief mandate is to train the island's population, which accounts for about 90 per cent of its enrollment. Teaching in the top priority, with small classes and regular enthusiasm of professors. Distinguished alumni: TV journalist Mike Duffy, writer Lucy Maud Montgomery.

QUEBEC (Université de Québec) (Abitibi-Témiscamingue, Châteauguay, Hull, Montreal, Rouville, and Trois-Rivières) (1968) *President: Claude Hamel* *Full-time students* 21,097
Part-time students 44,321
Tuition \$1,350

Part-time students outnumber those who study full-time in this unique multi-campus university. With its formal commitment to accessibility, Quebec opens its doors to almost all applicants, who are chosen from the 11 universities spread across the province. The

largest campus, in Montreal, is emerging as one of the country's most innovative and research-intensive universities. And two remote regions have won the university through an extensive distance education program.

Designated alumni, Guy Jobin, director general, Economic, Industrial and Commercial Development, Corporation of Trois-Rivières; Lorna Marie Rowland, president, Group Desjardins Inc.

QUEEN'S: Kingston (Est. 1828) *Principal:* David Smith. *Full-time students:* 12,256. *Part-time students:* 4,729. *Tuition:* \$1,894.

With the highest entrance standards in the country, Queen's in Canada's most exclusive university. In the fall of 1993, 85 per cent of all first-year students entered with at least an 80 per cent average. The university is particularly strong in law, engineering and political science. But the campus may be even better known for its strong school spirit—with student football games and a homecoming weekend that draws thousands of alumni from across the country. Designated alumni: actor Lorne Greene, actor Robertson Davis, Steve Rosen, outgoing Canadian ambassador in the United States.

REGINA: Regina (1774) *Principal:* David Nick. *Full-time students:* 7,272. *Part-time students:* 1,757. *Tuition:* \$2,465. Regina has the West's only graduation degree

program and the only shogrenian program in the country. It is also home to the renowned Saskatchewan Indian Federation College, the country's only university degree-granting and secondary institution. Last year, the university opened a \$18 million Language Institute to enhance the teaching of French and English in Saskatchewan and to produce classroom teachers to work across the country. Designated alumni: TV journalist Pamela Wallin, John Brown, leader of the Australian Liberal party.

ST. FRANCIS XAVIER: Antigonish, N.S. (1823) *Principal:* David Lawlor. *Full-time students:* 3,127. *Part-time students:* 286. *Tuition:* \$2,458.

From Minister Brian Mulroney's elite master's residence to its outstanding business university—and has produced four Rhodes Scholars since 1879. Students have regular access to top professors soon after they start school. Its highly innovative Institute for Learning offers a highly regarded course each year in which people from more than 40 diverse countries in what has become known worldwide as "the Antigonish movement". Other designated alumni: Richard Cook, president of Newfoundland Fisheries; Fred and Alford Weston, donor, sportscaster Danny Gallivan, former cabinet minister Allan Rock.

SARU MARY'S: Halifax (1857) *President:* Elizabeth Gentry. *Full-time students:* 5,000. *Part-time students:* 2,651. *Tuition:* \$2,340.

The university started only once until 1968, and remained unopposed by Jesuits until 1979 when it became an independent university. In addition to strong arts and science programs, Saru Mary's is known for its master of business administration program for executives. The university is also a leader in providing resources and facilities for physically disabled students. Athletics is an important feature of campus life, with about 70 per cent of all students participating in variety or seasonal sports.

Designated alumni: Gerald Ryles, former premier of Nova Scotia; Neil LeBlond, Nova Scotia's minister of government services; Robins Archibald, James Hayes.

ST. THOMAS: Fredericton (1865) *President:* David O'Brien. *Full-time students:* 1,530. *Part-time students:* 215. *Tuition:* \$1,560.

Students get the best of both worlds at St. Thomas—the intimacy of their small classroom with the resources of a large campus across the street, the University of New Brunswick. St. Thomas boasts 1907's literary athletic centre and student facilities. Reflecting its Roman Catholic background, St. Thomas's liberal arts program offers strong religious and humanistic disciplines. Designated alumni: Governor General's Award-winning novelist David Adams Richards; Sherry Lynn Pich, children's writer.

SASKATCHEWAN: Saskatoon (1907) *President:* George Henry. *Full-time students:* 14,740. *Part-time students:* 2,410. *Tuition:* \$2,670.

As the research centre for a province whose economy relies on farming, agricultural studies have a high profile at the University of Saskatchewan. Its last issue, more than three-quarters of the 2,000-acre campus is devoted to a university farm. Saskatchewan was Canada's first university to offer programs in both agriculture and liberal arts. The university has distinguished itself for its professional schools in law, medicine, nursing, pharmacy and veterinary medicine. Designated alumni: former prime minister John Diefenbaker; Gov. Gen. Ray Hnatyshyn; former Supreme Court justice Wilfred Levis.

SHERBROOKE: Sherbrooke Que. (1954) *President:* André Côté. *Full-time students:* 9,273. *Part-time students:* 6,560. *Tuition:* \$1,584.

About 6,000 students enroll in Sherbrooke's co-operative work study program, making it the largest in Quebec and second largest in the country. The university offers a work-study option in both graduate and undergraduate students in disciplines such as business, economics and engineering. Sherbrooke's medical school has a huge impact on the local community, playing a chief role in making it a leading research centre within Quebec. Designated alumni: businessman and senator Claude Desgagnés, federal Minister of the Environment; Jean Charest, former Quebec premier and chief executive officer of Bombardier Inc.

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SIMON FRASER, Burnaby, B.C. (1983) President: William Sigmund. Full-time students 8,477. Part-time students 7,558. Tuition \$1,560.

Under the university's progressive transfer system, students can start their school year in the fall winter or spring. The 18-month schedule allows full-time students, most attending the neighbouring Burnaby campus, to achieve their degree faster than at more traditional institutions. Since Fraser also offers co-op programs in several disciplines, including chemical engineering, computer science and engineering. The modern downtown Burnaby Centre campus on Hastings Street rates to participate in and during studies.

TECHNICAL, Toronto (1927) President: Robert Prescott. Full-time students 18,435. Part-time students 15,587. Tuition \$1,085.

See diversity and prestige in the hallowed halls of U of C, Canada's largest university. It has 128 academic departments, 48 libraries, 19 newspapers, eight affiliated colleges and more than 325,000 graduates. The university is known for its research programs—it boasts chemistry Nobel John Polanyi on staff and PhD programs in 45 disciplines ranging from aerospace science to zoology. Distinguished alumni include kings William Lyon Mackenzie King and Lester B. Pearson, writer Margaret Atwood.

TRINITY, Peterborough, Ont. (1923) President: John Smith. Full-time students 2,439. Part-time students 1,687. Tuition \$1,800.

Teaching is the top priority and professors are average aged (see below) because of the university's focus on the natural sciences. As a result, students also have the opportunity to take classes in small-group seminars and workshops. Trinity established the first Native Studies program in Canada.

Distinguished alumni: Rob Marshall. Olympic gold medalist in rowing. writer Tom Meek.

UCC (Upe Bible), Windsor, N.S. (1976) President: William Goldring. Full-time students 2,555. Part-time students 860. Tuition \$2,175.

Canada's youngest university offers the Atlantic region's only under-

graduate degree in the cutting-edge field of environmental sociology. The university also offers innovative training in high tech computer-aided engineering. Students can pursue college level education as well as university degrees.

Distinguished alumni: General Lewis Mackenzie, former commander of the United Nations peacekeeping force in Bosnia-Herzegovina, David Duguid, federal Liberal house leader.



Football practice at the University of British Columbia

VICTORIA, Victoria (1903) President: David Strong. Full-time students 10,396. Part-time students 5,303. Tuition \$2,750.

The university offers the only law co-op program in the country. Students can take law co-op options in subjects that range from computer science to creative writing. The university is also renowned for its political program and is home to the National Guard Institute. Distinguished alumni: writer/producer Pierre Berton, educationist Neil Postman, Linda Hughes.

WATERLOO, Waterloo, Ont. (1927) President: Douglas Wright. Full-time students 18,473. Part-time students 6,376. Tuition \$1,694.

With the world's largest co-op program and more math students than any other university in the West, Waterloo has gained an international reputation. Over 10,000 people a half the student body are enrolled co-op on 3,300 or more sites. Waterloo is Canada's only English language school of engineering and is renowned in engineering and computer science.

Distinguished alumni: Frank Chapp-

man, manager, Marconi Canada Inc., William Brown, Academy Award winner for computer animation.

WESTERN ONTARIO, London, Ont. (1970) President: George Pedersen. Full-time students 22,321. Part-time students 7,542. Tuition \$1,094.

One of Ontario's oldest and most prestigious universities, Western has professional schools for busi-

WINDSOR, Windsor, Ont. (1917) President: Robert Jones. Full-time students 15,743. Part-time students 4,536. Tuition \$1,094.

ness and at least three programs in great advantage, offering the country's only law program from which students graduate with both Canadian and U.S. qualifications. Students can also take credit courses at universities in neighboring Detroit. The university is home to the internationally respected Good Times Institute and the Canadian-American Research Centre. Windsor also has one of Canada's top creative writing programs, with such prominent authors as Morley Callaghan and W. O. Mitchell have been in residence. Distinguished alumni: Lloyd Austin, chief economist, Bank of Montreal; Richard Poffo, president and CEO of Toronto's SkyDome.

WINNIPEG, Winnipeg (1877) President: Marka Henrich. Full-time students 2,877. Part-time students 4,538. Tuition \$1,950 (graduate only) \$2,320 (graduate).

Winnipeg's writing studies program for creative students has become a model for universities across the country. With its natural beauty and small classes—most one has more than 250 students—Winnipeg has become an urban alternative in the suburban University of Manitoba.

Distinguished alumni: writer Margaret Laurence, federal Liberal education critic Lloyd Axworthy.

YORK, Toronto (1929) President: Susan Morris. Full-time students 25,145. Part-time students 16,977. Tuition \$1,893.86.

Known for its Dispute Hall law school, space sciences and fine arts programs, York is often recognized as one of the country's most progressive institutions in teaching research and more relevant research. It was the first university in Canada to set up a faculty specifically designed to help students of sexual harassment or assault and to educate the university community about these problems. It also has a career fair and ethics reforms which inhibit fee change in a course necessary to reflect academic progress. The university has pioneered post programs with several colleges to allow community college graduates to graduate with a university degree.

Distinguished alumni: criminal lawyer Clayton Kelly, Soule Ransick, author, TV national news writer Neil Bissonnette.

FROM STUDIES TO SEX

A Maclean's/Decima poll explores student attitudes across Canada

A Maclean's/Decima national poll of 100 university students, equally divided by sex, was conducted by telephone from Sept. 12 to Oct. 4, 1992. The results, as percentages, are rounded to the nearest whole number and in some cases, non-response are allowed.

1. In thinking about the overall quality of the education you are receiving at university, what grade would you give to it?

A - Excellent 23 C - Fair 14
B - Good 61 D/F - Poor/Not 1

2. And what is your main reason for that grade?

Graded high 4
Graded low 8
Good teachers 34 Work teaching 8
Like courses 9 Overcrowded 8
Other 38

3. How would you grade each of the following?

Size of classes 29 25 20 8 4
Quality of teaching 25 25 16 11 4
Preparing for jobs 17 41 28 6 2
Technical knowledge 35 49 14 1 1

4. Which is more important?

The skills you learn... 76
The diploma/certificate you obtain... 22

5. Once you have a degree, how long do you think it will take to find a job you want?

Less than two months... 16
Two to six months... 21
Six months to one year... 18
One year or more... 35

6. How much do you expect to be earning from a job by age 30 (annual income's voluntary cap)?

Less than \$20,000... 6
\$20,000 to \$40,000... 32
\$40,000 to \$50,000... 33
\$50,000 to \$70,000... 27
More than \$70,000... 2

7. Some people say that a university education is not a way to get ahead and that students would be better off learning the skills they can get at a college. Others say that a

university education is still the best way to get ahead. Which view best reflects your own?

University education not the best... 21

University education still the best... 71

8. Given a choice, would you prefer to study at a Canadian or an American university?

Canadian 82 American 16

9. There has been discussion lately about students being sexually harassed by their professors. Have you ever experienced that type of harassment?

Yes 3 No 97

10. (Asked of female students only) Some women have said that they want to have sex by a man on a date. Has this ever happened to you or anyone that you know?

Yes, me personally... 4
Yes, a friend... 15
No, me and a friend... 3
No... 78

11. Do you agree or disagree with these statements?

AGREE DISAGREE
A university degree is... 56 36
essentially essential for future success

My high school did a good job of preparing me for university... 52 41

I usually have more fun when I go out with a group of friends than on a date... 52 23

I don't think the appropriate sex is much in a date... 26 59

I wouldn't love sex with a person if I were in a serious relationship... 69 20

12. How many times have you shared sex with a partner or your partner's? Never 74 Three or four times 5 Over or twice 17 Yes or more times 5

13. Given a choice, would you consider Decima more fun with... 20 20

14. And when you have sex, do you always, usually, seldom or never use a condom? Always 38 Usually 18 Seldom 12 Never 24

15. If you to Question 9, was the decision to use a condom yours or your partner's? Mine 28 My partner's 3 Both 68

16. And when you have sex, do you always, usually, seldom or never use a condom? Always 38 Usually 18 Seldom 12 Never 24



Memorial's Duffin crowded classes

Visit and work with Mother Teresa? 18
Drink beer and have sex? 27

14. Roughly how many sexual partners have you had in the past year?

None 16 One 46
Two 10 Three 7
Four or more 8

15. If at least one partner in the past year, roughly how many times have you had sex in the past month?

None 26 Four times 7
Once 4 Five times 5
Twice 8 Six or more times 10

Three times 8 Ten or more 22

16. The last time you had sex, did you use a condom? Yes 46 No 46

17. If yes to Question 16, was the decision to use a condom yours or your partner's? Mine 28 My partner's 3 Both 68

18. And when you have sex, do you always, usually, seldom or never use a condom? Always 38 Usually 18 Seldom 12 Never 24

LOCAL ANXIETIES

AS HIS FEDERAL CAUCUS EMBRACES BRIAN MULRONEY, MANY GRASSROOTS TORIES SAY THAT HE SHOULD RESIGN

Once a week, when Parliament is in session, the spare but spacious room-door room in Parliament's Centre Block takes on the air of a religious revival meeting. For about three hours, the 200 MPs and senators in the Progressive Conservative caucus sit on straight-backed chairs—often uphauled, clapping and chanting in unison. The object of their attention, Prime Minister Brian Mulroney, alternately cheers and charms them in a hearty and emotional fashion in both official languages. Since Mulroney won the Conservative leadership in 1983, these caucuses have offered him a regular forum to beat old myths—and avoid new ones. His performances, says one acquiring MP, "I'm convinced by the greatest show this side of Broadway." And, as Mulroney demonstrated again last week during a special caucus meeting, it is increasingly unlikely. Less than 72 hours after a stagy defeat, in the Oct. 26 constitutional referendum, raised doubts about Mulroney's political future, the Prime Minister was a smiling orator when he told his MPs that he plans to lead them into the next election, which is almost certain to be held before November, 1993.

The enthusiastic applause for Mulroney was clearly intended to show that he enjoys the support of his caucus. But despite his insistence that he plans to run again, many Tories and other observers say that it is still possible that Mulroney will step down before the next election. In the short term, the Prime Minister clearly had little choice but to deflect any doubts about his leadership among other caucuses, the government wanted to present an image of stability to the international community who underestimate what the country's \$450 billion deficit. And at home, anything less than a blunt reassertion of his plans to run again would shift attention from Ottawa's efforts to stimulate the economy to speculation over a coming



Mulroney greets caucus members last week; many Tories and other observers say that it is still possible he will step down

leadership campaign. Said one senior Conservative cabinet minister: "The last thing he had to do after the referendum is show that it is he—and no one else—who will decide whether he goes or stays."

Many of Mulroney's friends, having watched him age dramatically during his eight years in power, say privately that the time has come for him to step down. At 55, he is still in good health and would have little trouble launching a new career. And his wife, Mita, is clearly tired of the demands that public life make on her and their family. Mulroney would almost certainly like to announce such a decision by the end of January in order to allow the party time to elect

a successor and to plan the next election.

In the meantime, Mulroney must confront some harsh political realities. For most of the past three years, the Conservatives have been in third place in national opinion polls, although recent surveys indicate they have moved slightly ahead of the NDP. Almost half of Mulroney's 39-member cabinet, and as many as a third of all Tories, have said that they will not run again or have not yet made a decision. Some of the unspoken acknowledgment that they are doubting Mulroney's decision before making up their minds—and are more likely to resign if he goes. One of the few men to openly question Mulroney's plans, Stan Wilson of this-

ish Columbia's Delta riding, declared last week: "I would tell Mr. Mulroney, 'You are going to have to seriously consider your future, the future of the party, and the future of the country.'"

In fact, interviews by Mulroney's with more than 50 Tory riding association presidents after last week's referendum revealed that many do not share their MP's enthusiasm for Mulroney. Some, like Allen Degross, president of eastern Ontario's Glengarry/Prescott

riding, said that Mulroney's decision to run again was a mistake. "I think that people just do not like him any more," he said. "I think that people just do not like him any more." Added David Selous, Conservative party president in the B.C. riding of Fraser Valley West: "I would certainly think that Mr. Mulroney would have to reassess his future." And Peter Carling, president of Ontario's Lambton-Kent riding, said that Mulroney has to accept responsibility for his own loss standing in the polls. "He's the captain of the ship. You can't go through years of unpopularity, and the ship is in the fire of the referendum, without an endorsement from the party."

Mulroney and his strategists must decide how deeply that disaffection runs. During the referendum campaign, there were signs that Mulroney's strong stand on behalf of the constitutional accord actually drove more Canadians to vote No than to support it. But according to a Marlowe/Edwards poll taken on the day of the vote—and cited by Mulroney during last week's caucus meeting—only eight per cent of No supporters outside Quebec said that they voted against the accord because of their opposition to Mulroney.

Despite their leader's unpopularity, some Tories say that they can win re-election by presenting themselves as the party most capable of rebuilding the economy in line with that message. The Conservatives plus several populist initiatives aimed at winning back supporters who have drifted to Preston Manning's Reform Party of Canada. Among them a proposal to eliminate many of Ottawa's 32 members as part of a dramatic restructuring of the federal government. Secretary of State Robert de Gooze, who proposed the cut-backing plan, said that support within the party is so strong for such a measure that "my minister even came and said, 'You can abolish my department.'" (He declined to name the ministers.)

But Mulroney must also consider the potential long-term damage to his party if he decides to remain as leader. If he stepped down before calling a vote his successor would have a chance to rebuild the party before facing the electorate. On the other hand, if Mulroney stays on as the party looks to recover, several likely leadership contenders, including Justice Minister Kim Campbell and External Affairs Minister Barbara McDougall—would risk defeat in their own ridings. Others who would be under pressure to run for leader should the Prime Minister step down, include Conservative

riding association, were clearly critical of the Prime Minister. "He is like a marionette," said Degross, telling on Mulroney to step down. "He does not know what he believes in." He added that the Tory leader has surrounded himself with advisers who filter out criticism from the party's grassroots. "I've passed it off, but they'll never listen to us." Others, such as Roger Zaro, president of the Hamilton/Weston riding association, said that Mulroney should call a leadership review before running. "He is not held in high regard, and with the failure of the accord, perhaps he should step aside."

Many Tory riding association presidents cited the referendum loss as proof of Mulroney's unpopularity. "Unbelievably in this riding there is talk about leadership changes," said

National Notes

GATS AND ARMS

Canada's military will now allow homosexuals to serve "without restriction." Previously, Canadian Forces policy barred homosexuals from promotions, career courses and security clearances. Chief of Defence Staff General John de Chastelain's statement ordering the new policy followed an out-of-court settlement in which Ottawa agreed to pay \$110,000 to Matthew Gosselin, a former lieutenant who resigned after protest in August, 1989, after acknowledging a lesbian relationship.

ANGRY POLICE

More than 6,000 Ontario police officers and their supporters demonstrated outside the provincial legislature to protest what they called the "anti-ang" policies of the new government. The protest was the largest step in a month-long job action by Metro Toronto police officers who have replaced their uniform hats with baseball caps and stopped enforcing minor traffic violations. Among other things, the police officers are demanding that the government scrap regulations that would force officers to file a report each time they draw a firearm in public.

IMMIGRATION CHANGES

Federal Immigration Minister Bernard Valcourt announced amendments to reform Bill C-86, the government's controversial new immigration legislation. Among the changes will be C-86 originally gave immigration officials enhanced powers to fingerprint immigration applicants, those records will now be destroyed once the applicant receives Canadian citizenship.

MORE LABOR BAINS

British Columbia's new government proposed sweeping reforms to the provincial labor code. Like similar measures that are expected to become law in Ontario later this month, the B.C. proposals would ban the use of replacement workers during strikes. The reforms would also permit unions to boycott and block the delivery of products of non-union or unlicensed companies.

TUMBLING ALBERTA TORIES

In a by-election held on referendum day, Alberta's Conservative government lost the riding riding of Three Rivers to the resurgent Liberal party, which is currently leading in provincial opinion polls. The Conservative government, which is running second in the polls, ahead of the NDP, is holding a leadership vote to choose a successor to Premier Don Getty on Nov. 26.

nations Minister Pierre Boudre, Environment Minister Jean Charest, former Alberta premier Peter Lougheed and Mulroney's own chief of staff, Hugh Segal, who is feared by some powerful Toronto Tories.

Another factor which could affect Mulroney's decision is the likelihood of a Quebec provincial election next year. If the Parti Québécois wins that election—and followed through on its pledge to call another referendum on sovereignty—association—some Tory strategists say that Mulroney could present himself to voters in the rest of the country as the man best able to defend the cause of federalism in such the near future.

Pierre Trudieu was re-elected in February 1980, three months before the first Quebec sovereignty referendum.

Quebec is also where Mulroney's hold over his party is really the strongest. Before the 1984 election, the Tories had just a single seat in that province. The party now holds 56 Quebec ridings—and most of those MPs find it hard to conceal their allegiance to Mulroney. Said Liberal Minister Marcel Desrosiers, a Clark supporter in the 1983 Conservative leadership convention: "The personal political strength of the Prime Minister is the reason most of us get elected in the first place. We are not about to forget that." As well, Quebec Tories know that a new party leader would almost certainly be a non-descript figure outside the province—and that could greatly diminish the party's appeal there.

But Québec is also Mulroney's greatest threat. For one thing, his inability to come up



Mulling with wife Sandra, Tony politics aimed at Reformers

with a modest annual appropriation acceptable to the province will help the sovereignty Bloc Québécois, the Bloc, backed by the Parti Québécois, would capture the support vote in its election, while the Liberals and Tories would fight over the federal vote.

Such considerations are clearly worrying many Tories. Harry Gregg for one, president of the Toronto-area Mississauga South Conservative club, association and a veteran of Tory politics in three provinces, acknowledges that it "seems apparent that the Conservatives cannot win the next election with Brian Mulroney as leader." But Gregg also cited another fear within the party: "I would like to see him replaced, but Mulroney can win Quebec on the kind and that is the dilemma."

Indeed, many MPs say that in Quebec Mulroney continues to be a definite asset. Declared Alberta MP Guy Saint-John: "If there is one person who has really fought for Canada and for Quebec, it is the Prime Minister—much more so than we do." Mulroney's determination to battle for Quebec's place in Canada is one of the reasons for his passion for politics. But in the money constitutional trust that now prevails, he is in the position of an aging warrior, contemplating the consequences of past battles, and whether he has the an-

thony and support to lead new men.

ANTHONY WILSON-SMITH and
KATE FULTON and LINDA FULTON in
Ottawa; TOM FINNELL in Toronto; JOHN MORSE
in Calgary and BARRY CANE in Montreal

ing or reducing them." A report on the subject has already been completed—but the committee of State Robert de Groot gave Prime Minister Brian Mulroney a 200-page study recommending just such a substantial restructuring. But the prosperity commission's call for cuts in government spending—a policy the Conservatives have endorsed since taking power in 1984—brought a discomfited reaction from GLE President Bob White, who said that the report "deserves to go straight to the dustbin."

Many business leaders, by contrast, welcomed the relative. Timothy Reid, president of the Canadian Chamber of Commerce, said that it "provides an agenda to get the economy back on track." Reid, who called for immediate action on the report's recommendations, turned it to a national "wake-up call." To others, though, the alarm had a familiar ring.

GLEN ALLEN and KATE FULTON in
Ottawa

A surprise departure

Premier Joe Ghiz seeks a new challenge

Few weeks after becoming premier of the province of New Brunswick, Joe Ghiz was widely expected to be the next Liberal leader. But last week, the province's premier, progressive premier stepped forward to report to his office and made an announcement—after an 18-month power he was stepping down. "I'm going to be surprised," Ghiz, smiling broadly, asked as he stood behind a roped-off podium. The 47-year-old Harvard-educated lawyer and that he and his wife, Rose Ghiz, had made the decision months ago, but decided to keep it private until after the Oct. 26 constitutional referendum. In fact, the announcement stunned many Islanders, including members of his Liberal caucus. And whoever emerges from next year's leadership contest in Ghiz's succession will inherit numerous political problems—even though the Liberals, with 28 of 32 legislative seats, will have a strong grip on power.

Ghiz, the second provincial premier to announce his resignation this fall, leaves behind a difficult situation. He has been under fire for different circumstances from Donald Getty, the unpopular premier of Alberta who



Ghiz: speculation about a federal posting

on Sept. 15 declared that he was quitting. Ghiz was widely liked and respected in his home province. A June public opinion poll by Halifax-based Corporate Research Associates Inc. ad-

vised that 59 per cent of Islanders thought that he was doing a good job. Moreover, his gift of courtesy and tact in changing of the Islands Lake and Charlottetown, which helped to push Canada's smallest province (population 126,000) into an unexcused hiatus. While most Canadians ignored these generous overtures of the constitutional deal, Islanders voted 12.6 per cent in favour—by far the highest support level in the country. Said federal Liberal party president Donald Johnston, a longtime friend of the premier: "I hope this isn't a signal that he is retiring from public life. Because he has an enormous amount to offer."

But after six years in premier and 11 as leader of the provincial Liberals, Ghiz clearly wanted new challenges. It was common knowledge on the island that he was bored with the premiership. And Ghiz himself said last week that he was unwilling to commit another five or six years of his life to it. In recent months, Ghiz has privately weighed the possibility of running for Parliament in the next federal election. From his federal Liberal officials said that they knew nothing of his decision until Ghiz called party leader Jean Charest's Ottawa office last Friday morning, three hours before the public announcement.

Last week, Ghiz did not discuss his future

AN ELUSIVE PROSPERITY

It cost \$19 million and involved more than 200 consultations with 10,000 Canadians in 200 consultations. But the first report of the Prosperity Group on Prosperity, a federally appointed 20-member independent commission, failed to impress many analysts. Titled *Revealing Our Future—An Action Plan for Canada's Prosperity*, the 75-page study offered a number of what it called "key recommendations" to limit Canada's weak economy. Among them: Canada should "reduce the burden of government on Canadians," "explore a larger share of global trade, investment and technology," and "focus educational and training systems on results." These proposals, critics charged, amounted to little more than well-worn platitudes that have been discussed for years—with little action. Said Liberal

senior Paul Martin: "You can go back and read 20-year-old C.D. Howe Institute reports and find the same stuff there."

For their part, federal officials said that the prosperity report's recommendations will form the centrepiece of the federal Conservatives' future economic strategy. Declared Michael Wilson, minister of industry, science and technology: "I think it sets an important set of directions for us." Indeed, the government appears poised to act on implementing some of the recommendations. The report calls, "Another key to a competitive economy is strong infrastructure, including efficient transportation." Federal and provincial officials have been trying since the spring to find a \$14-billion public works program to rebuild and repair 24,500 km of the national highway system. The program, delayed by squabbling over each government's share of the cost, was likely to be announced next month.

The report also called for a review of "the number of government departments, agencies and programs with the objective of contract-

ing or reducing them." A report on the subject has already been completed—but the committee of State Robert de Groot gave Prime Minister Brian Mulroney a 200-page study recommending just such a substantial restructuring. But the prosperity commission's call for cuts in government spending—a policy the Conservatives have endorsed since taking power in 1984—brought a discomfited reaction from GLE President Bob White, who said that the report "deserves to go straight to the dustbin."

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GLEN ALLEN and KATE FULTON in
Ottawa



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CANADA

plans. If he decides not to run federally, he might seek to fill a vacancy on the P.E.I. Supreme Court. There is also speculation in Ottawa that Prime Minister Jean Chretien may reward Ghan with a plum federal posting, perhaps an ambassador's job, in return for his support for federal unity.

Already, Ghan has featured a chequered success story. He grew up in Charlottetown over the grocery store owned by his Lebanese-born father where he listened, as a customer debated federal politics. After completing a commerce degree at Dalhousie University in Halifax, he entered law school there, graduating at the top of his class in 1979. Returning to Prince Edward Island, he quickly earned a reputation as one of its top lawyers, even finding time to complete a masters degree in law at Harvard in 1984. Later that year he was the minister of the devastated Liberal party, despite never having held a legislative seat. In 1986 he led the party to victory in 21 of 35 seats over James Lusk's Conservative government. Three years later, Ghan and his Liberals won by an even wider margin, taking all but two of 35 seats.

As the first Canadian premier of non-British ancestry, Ghan has faced unusual challenges. During the 1986 campaign he had to reduce widespread criticism about his ethnic origins. As well, as his first term as premier, a Tory MLA called Ghan "black boy" in the Charlottetown legislature. But most Islanders embraced Ghan as a man with a quick wit and a gentle soul, who served as a comfortable discussing his recipe for Canair salad as he was debating the success of constitutional reforms. As Lawrence Duchesne, leader of the province's New Democrats, put it last week, "They'll find it hard to find someone as popular as Ghan."

Still, some critics say that the premier's recent preoccupation with constitutional matters has been at the expense of pressing domestic matters. For one thing, the always contentious question of land use and forestry has risen to the fore again because of efforts by the New Brunswick-based Irving business empire to acquire land for its fast-growing pulp operations. Ghan's successor will also have to provide whether a proposal for a controversial fixed link between Prince Edward Island and the New Brunswick mainland fulfils the elusive conditions set by Ghan's government.

Last week's abrupt announcement leaves the Liberals with an obvious successor. None of the potential contenders—Industry Minister Robert McEwen, Health Minister Wayne Cheevers and Catherine Callbeck, the son-in-law of Maloupe—enjoys Ghan's stature or popularity. Devoted Patricia Mills, the provincial Tory party leader, "I think so, the PCs will be more comfortably positioned as the next election following his resignation," Ghan may well return based in premier, but his sudden resignation ensures that Island politics, in the coming months, will be anything but tranquil.

DOUG DEMONT with BARBARA MACDONALD in Charlottetown and E. KATE AUSTON in Ottawa

No to politics as usual

Special-interest groups suffer a setback

FROM the beginning of the referendum campaign, the polls in Michael Denno's suburban Montreal riding barely moved. Day after day, the federal labor minister and his fellow Tory supporters trod the same ground, talking about the advantages of Meech, looking on doors, appealing for support from the largely Francophone nationalist community. Nothing worked. Repeated surveys indicated that while older or wealthier voters tended to favor the Charlottetown constitutional accord, most of the rest opposed it. Recalled Denno last week: "What we saw was blue collar on one side, white collar on the other. In that sense, the question that voters were asking was, 'Are you satisfied with the system and with your place in it?'" On Oct. 26, more than two-thirds of the voters in Verdun answered that question with a resounding No.

This result reflected a cross-Canada anger at the score of social scientists and the entire political system. The Charlottetown accord was always in anxiety and mutual compromise between two sets of negotiators. On one side were governments in Ottawa and the provinces, on the other were special-interest groups such as aboriginals, women and disabled people. Although some of those constituencies were absent from the table, the negotiators struggled to give something to every region and to every group—in part, by adopting a social charter that outlined government commitments to universal health care and reasonable access to housing and food.

When dissatisfied voters rejected the accord, they demanded that fragmented approaches to constitutional reform. As a result, Canada's imperial elites and its various interest groups are unlikely ever again to become partners in constitutional talks. St. University of Calgary political science professor Gilbert "Cassidy" was sending a direct message to his government: They were rejecting the constitutional process as much as they were rejecting this particular package.

That message is disturbing for national political parties and for special-interest groups—whether they supported the accord or campaigned against it. The post-referendum consensus among political analysts is that voters are more than simply disappointed with the results of interest politics; they have sent a powerful signal that governments must pay

more attention to the views of individual Canadians, rather than catering to the interests of regional elites and organized lobby groups. Politician Michael Adams noted that while most Canadian institutions have become less paternalistic and hierarchical, the political system stands almost as if refused to become more responsive to its constituents' needs. "People are frustrated that the politicians just don't get it, the

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Party of Canada. Although those groups fought against the accord, most did not offer a new, more responsive approach to politics. Sen. Len Campbell, a senior Tory organizer and a longtime New Democratic Party activist, "There is nothing politically in this for anyone, including the people campaigning for the No," added Adams. "Many Canadians think that every special interest in the country is trying to be the system. They do not see themselves or their group represented as a distinct society or special status."

That verdict has clearly dented the current approach to constitution making. Until 1990, only Ottawa and the provinces sat at the constitutional table. The failure of the Meech Lake constitutional accord in June 1990, convinced politicians that they had to achieve a broader consensus. The Charlottetown agreement was the culmination of those efforts. But in their determination to accommodate every region and every group, the accord's authors could not permit an overarching national vision. Described University of Manitoba law professor Bryan Schwartz, "We were trying to broker competing special-interest groups, but many Canadians said, 'What about Canada? What about the individual?' Nothing in the package attempted to make a stronger national government—in fact, our national institutions."

Most experts, to build, say that it is now impossible to win widespread public approval for any major constitutional package, further constitutional talks, or any other major initiative. The great distress among Canadians, declared Patrick Mahoney, a law professor at Toronto's Osgoode Hall Law School, "What this tells us is that a compromise, large package of amendments is not going to work. It does not matter who is the author—politicians or constitutional assemblies. The compromises that are necessary to put together a national package do not seem to result in something that people are prepared to live with."

In the end, the failure of the Charlottetown accord may force governments to pay more attention to the views of individual voters. The federal government, for one, may no longer be right to regard its citizens, allowing the public to sit back. There may be more free votes in Parliament—and less administration of patronage. As well, governments at all levels will have to find new and more imaginative ways to conduct their constitutional talks. Although many Canadians who voted No cannot say they of movement constitutional change, they may have shown their politicians on the road to relevant political reform.

MARY JENSEN with E. KATE AUSTON and ANTHONY WILSON-SMITH in Ottawa



Rebuke: the accord's opponents may reap few benefits

'BONES OF THE DEAD'

WAR-INDUCED FAMINE IN SUDAN THREATENS TO REPLAY THE NIGHTMARE OF SOMALIA

The 300-ton truck had taken a grim toll. On the outskirts of Khartoum, a rebel-held town in war-torn southern Sudan, about 1,000 emaciated Dinka refugees struggled through 10-ton high elephant grass. Many of the men were naked except for chunky armbands of elephant ivory above their elbows and copper bracelets fashioned from spent mortar shells. The women urged the exhausted children on by swinging them with leafy branches. Along the way, the Dinka ate grass and leaves to survive, quenching their thirst from muddy puddles. They said that they had left their homes in Bari, a district on the eastern bank of the Nile River, because of raids by their ethnic cousins, the Nuer. The attacks, they said, had left thousands dead and crops burned to the ground. "There never seen anything like it," said Kied Makh, one of the Dinka refugees. "If you left for me, you would be walking on the bones of the dead!"

Since 1983, the rebel Sudan People's Liberation Army (SPLA) has been leading the Nuer and other government in Khartoum, a war that pits better-developed northern Sudan, mostly Islamic and Arab, against the poor south, composed largely of African Christians and animists. The struggle contributed to a famine in 1988 that caused an estimated 250,000 deaths. But 15 months ago, the war split along ethnic lines, turning the Nuer against the Dinka—and broadening the already devastating conflict. The Dinka support SPLA founder Col. John Garang, who wants Sudan to be a unified secular state. The Nuer align themselves with a rival faction that calls for the secession of southern Sudan. Now, relief workers say that the two-year civil war and its devastation of peasant farms is slowly creating a disaster as great as that in Somalia, where two million



Starving Sudanese: a human shield

people are in danger of starving to death.

The war has forced at least 4.5 million people, or 75 percent of the south's population, to flee from their homes in search of food and security in other parts of Sudan in Ethiopia and Uganda. Hunger and disease have killed a further 500,000, relief workers say. Meanwhile, the distribution of international relief supplies, already hindered by the war between the government and the SPLA, has been further impeded by the factional fighting within the rebel movement. Food and humanitarian aid from Canada, roughly \$30.5 million this year, has been frequently delayed. In late September, the relief network suffered a devastating blow when rebels killed three UN aid workers and a pharmacologist. In response, UN Secretary General Boutros Boutros-Ghali suspended the world body's Operation Lifeline II aid program in the eastern Equatoria region of northern Sudan until security is restored.

Aid workers accuse both the Khartoum government and the rebels of obstructing relief efforts. In February, government leaders, citing concern that aid supplies might fall into rebel hands, banned relief flights to southern Sudan by the International Committee of the Red Cross. In May, it extended the ban to trucking. UN relief flights are sporadic, depending on the whims of Khartoum officials.

To make matters worse, in late September the government went so far as to announce that it would donate 100,000 tons of surplus sorghum to Somalia and other drought-stricken African countries, ignoring the score that one million southern Sudanese who are at stake of starvation. The message was clear if Khartoum cannot find a military solution to the war, it will starve the rest of its population into submission.

Meanwhile, the SPLA launches relief efforts by recruiting foreign aid workers to acquire "visas" to enter rebel-held areas and by smuggling food rations for civilians. The rebels have become progressively less co-operative since May, 1991, when their principal supporter, President Mwanga Bide Mbariki of neighboring Ethiopia, was overthrown. That deprived the rebels of vital shipments of arms and supplies, leading to the loss of 14 towns to government forces earlier this year. Since June, the Gering faction of the SPLA has been shelling Juba, the largest government town in Sudan. "It's like the Somali war," says Weisbach. "In September, rebels threatened to shoot down any relief planes flying there."

Caught in the middle of the fighting are 300,000 civilians, herded into Juba from surrounding villages by government troops for use as a human shield from SPLA attacks. In mid-

August, the government expelled all expatriate missionaries from the city, which is now closed to journalists, leaving no foreigners to witness the human misery on the ground. According to the expelled clergies, soldiers have executed hundreds of alleged SPLA sympathizers, including a Sudanese employee of the U.S. Agency for International Development.

Soldiers have also mined routes out of Juba to prevent them from carrying food to being. According to London-based Amnesty International, troops have burned down heavily populated areas of the city to create fire-free zones. "As a result," a spokesman for the human rights organization said, "more than 100,000 people are expected to be starving, many in appalling conditions and without shelter from the seasonal rains." But these rains are a mixed blessing. When the dry season begins in December, fighting is expected to intensify.

Western leaders consider the government of Lt.-Gen. Omar Hassan al-Bashir one of the most repressive in the world. After he took power in a 1989 coup, Bashir and Muslim fundamentalist leader Hassan al-Toussi, head of the National Islamic Front party, embarked on what they call a holy war against southern rebels. Last year, the government imposed



Islamic law in the entire country, punishing thieves with amputation of limbs and the drinking of alcohol with public flogging. This year, it ordered southern schools to teach the Koran and Arabic, a language that many Africans in the south do not speak. Bolstered by an influx of Iranian-supplied arms and Chinese MIG fighter jets, Bashir and Toussi are the co-phidates of southern Sudan as the first step in a push to Islamize North Africa.

Washington officials clearly distrust Khartoum government leaders at the American-embassy sheltered in Juba. But its options appear to be limited: The United States cut off all economic and military aid to Khartoum after the 1989 coup. At the same time, Western nations have been overruled by relief efforts in Somalia, where worldwide attention has focused on the starving millions in the Horn of Africa. Still, Anders Malm, an administrator with the U.S. Agency for International Development, and a spokesman of the government in Juba, said that it would be open to negotiations in the future.

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World Notes

INVOLVING SOMALIA RESHOWN

The United Nations special representative for Somalia, Ahmed Mohamed Salah, resigned after UN Secretary General Boutros Boutros-Ghali refused him for securing the world body of reacting too slowly to Somalia's devastating famine. Many leaders praised Salah for winning agreement from warring clan leaders to allow UN peacekeepers to supervise food distribution.

YELTSIN FIGHTS BACK

Under attack from hard-liners, Russian President Boris Yeltsin went on the offensive, becoming a new opposition group of Russian nationalists and former Communist officials called the National Salvation Front. He also ordered the disbanding of the Cossack's Guard, a shadowy 5,000-member police force controlled by parliamentary speaker Vladimir Lukin, a powerful opponent of Yeltsin's government. And he threatened to resign his post, but might attract direct presidential rule to prevent his reforms from being derailed by his critics.

WITHDRAWING FROM POLAND

The last Soviet Soviet combat troops, which have been stationed in Poland for more than 40 years, pulled out. Left behind were 4,000 non-combat troops who will remain until the end of 1993 to help the evacuation of a Russian garrison in western Germany through Poland. Meanwhile, citing "humanitarian" reasons, the rights of minority Russians, Moscow announced that it would halt the withdrawal of Russian Red Army soldiers from Latvia, Lithuania and Estonia, drawing angry responses from Baltic leaders.

KENNEDY FREE RELEASED

President George Bush signed a bill releasing most records on the 1963 assassination of President John Kennedy. The legislation was a reaction in part to the controversial 1990 PBS, in which director Oliver Stone claimed that the CIA and other government agencies may have been implicated in the assassination.

DEBATING UNITY

The Maastricht treaty on European union was overwhelmingly supported from Italian and Spanish legislators. Italy's lower chamber of parliament ratified the treaty, while Spain's lower chamber endorsed it ahead of a Nov. 35 vote in the full congress. The treaty, which was approved to build a central Atlantic in Maastricht, which is supported by Prime Minister Jozsef Mayer but opposed by rebel Conservatives and the Labour opposition.

SOUTH AFRICA

A BLOOD WAR

Black-on-black violence rages through Natal

The gunmen picked the perfect spot for the ambush, a place appropriately named "head man's head," and the first time, when the waiting men erupted with the cry of their approaching victims. Hiding behind a low wall last week, they waited for a car carrying three officials of the African National Congress (ANC), which is locked in a bitter power struggle with the Zulu-based Inkatha Freedom Party in South Africa's volatile southeastern province of Natal. As the vehicle rounded the tight curve on a steep mountain road near Pietermaritzburg, the provincial capital, the assassins opened fire on its passengers, who were returning home to a local meeting place with Inkatha officials. The gunmen killed Reggie Ndlovu, the ANC's chief regional negotiator, and wounded his two companions. The cold-blooded assassination on Oct. 20 took place during a renewed outbreak of politically



Government troops escalating carnage

motivated black-on-black killings and anti-black waves through South Africa.

Violence on the black townships has intensified at a delicate stage in government efforts to revive stalled democracy talks aimed at drafting a new constitutional constitution for the country. Both the ANC and Inkatha, which accuse each other of instigating the violence that has killed more than 5,500 people this year, are boycotting the constitutional talks. Last week, government officials reiterated calls for ANC President Nelson Mandela and rival Inkatha leader Chief Mangosuthu Buthelezi to hold an emergency summit to try to halt the escalating carnage. But it appeared that the situation might well be spiraling out of control. "We have war taking place," said Barry Gwala, hard-line ANC leader in the Natal Midlands region. "No amount of talk between Mandela and Buthelezi can bring an end to violence."

Indeed, just four days before Buthelezi's murder, masked gunmen entered the village of Polweni, about 30 km southwest of Durban, and executed eight teenage ANC activists. Less than 24 hours later, unidentified assassins opened fire on the nearby Zulu settlement of Mphahle, killing 22 people—among them women and children.

In the wake of the apparent 10-for-10 killings, both the ANC and Inkatha were quick to accuse blame. Inkatha national chairman Frank Mchaleke said that he had no doubt that the armed wing of the ANC, Spear of the Nation, carried out the Mphahle massacre. ANC officials countered the allegation and accused Inkatha, which they regard as a puppet of the Pretoria government, of orchestrating the ambush on Buthelezi. Said ANC spokesman Carl Nicholas: "We will leave no stone unturned in bringing the murderers to book."

President P. W. (Frederik) de Klerk scrambled to contain the crisis. He called on the leaders of the warring factions to hold urgent talks to seek a negotiated settlement. And the president announced that troops will be deployed in Natal to aid police, who will have wide powers of detention and crowd control in so-called unrest areas.

In an apparent attempt to ease the tensions, Mandela said that his supporters should share some responsibility for the violence. "We must surely look at our own conduct going beyond narrow partisan considerations," he said during a speech in the southern city of Port Elizabeth. But the ANC leader rejected plans to meet with Buthelezi.

In any event, Western diplomats expressed pessimism that direct talks between the rival leaders alone will stem the bloodshed. "It seems that a meeting between Buthelezi and Mandela is urgent and necessary but will not in itself be a quick-fix solution," said one diplomat who requested anonymity. "There has to be willingness among the protagonists to the violence to stop." But after another bloody week in troubled South Africa, it seemed that no such willingness was likely to be found.

SCOTT STEELE with CHRIS GRAMMAS in Cape Town

Victoria Harbour, Hong Kong



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General Motors assembly plant in Oshawa, Ont.: Canada has already paid a substantial price

BUSINESS

A COLLISION COURSE

Nearly, assembly-line worker Keith Skenebaker might have closed last week when General Motors Corp. chairman Robert Stempel resigned after a bitter hard-earned power struggle. In February, Stempel announced that, by next summer, GM would close a car assembly plant in the Detroit suburb of Tipland, where Skenebaker has worked for 21 years, as part of a massive cost-cutting drive. But last week, Skenebaker said that he is sorry to see Stempel leave. The reason: although Stempel announced plans last year to close 21 plants and slash 74,000 jobs from GM's payroll by 1996, the former engineer also tried to cushion the impact of those cutbacks by agreeing to lucrative layoff and early-retirement benefits for affected employees. Skenebaker, for one, has collected \$1 per cent of his \$19.81-an-hour wage over the past year under the layoff plan. As well, the 41-year-old father of two teenagers could also collect 85 per cent of his wages for two years after the plant

GM DIRECTORS OVERTHROW THEIR CHAIRMAN AND TAKE CONTROL OF A TROUBLED CORPORATE GIANT

closes. Last week, however, a dissenting group of neo-management GM directors won control of the company and, like thousands of other disgruntled GM employees, Skenebaker said that he worries that the new chairman will be much tougher than Stempel was. Said Skenebaker: "He looks good as intrapreneur." GM shareholders who have suffered through

recent losses and lockstake stock prices during Stempel's two-year reign clearly disagree. Stempel's dramatic resignation capped a year-long battle among GM's 15 board members, which placed Stempel and a group of long-serving GM executives in opposition to new management directors led by John Smale, the secretive Canadian-born former chairman of the multinational soap manufacturer Procter & Gamble Co. (P&G). The first clear evidence of the split came in April, after GM reported a \$2.4-billion loss for 1994, the largest ever reported by any corporation.

Frustrated with Stempel's gradual strategy for streamlining and reforming the world's largest automaker, board members effectively ousted Stempel and his principal lieutenant. Last week, amid intense industry and media speculation that the board would replace him altogether at a meeting this week, Stempel chose to step aside. In a written statement, Stempel declared: "I could not as good conscience continue to watch the effects of rumors

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and speculation that have undermined and slowed the efforts of General Motors people to make this a stronger, more effective corporation."

In recent weeks, these rumors had all but paralyzed operations at GM—and exacted a heavy personal toll on the beleaguered 58-year-old chairman. Despite his take-charge demeanor and booming voice, Stempel has had difficulty coping with the strain of the intense public scrutiny. Three weeks ago, he was hospitalized briefly with high blood pressure after he collapsed in Washington. A week later, television crews chased Stempel through the corridors of a suburban Detroit banquet hall after he delivered a long-scheduled speech.

When he took GM, a company approximately five times the size of F&G, Stempel joined GM's toilet goals mission in 1982. He soon won recognition as a brand manager by overseeing the American Dental Association to formally endorse Crest, the first mass-market fluoride toothpaste. As company chief executive in the 1980s, he doubled GM's profits by expanding into new overseas markets and into the cosmetics business. He also developed a reputation as a corporate tough guy by closing factories and doubling GM's payroll.

That reputation has clearly impressed GM shareholders and Wall Street investors who had become disoriented with Stempel's cautious, consensus-building approach. The week



Shift change in Arlington, Tex.: workers "don't know what is going to happen"

Stempel, who replaced Stempel as chairman of the GM Board's powerful seven-member executive committee in April, and who has now assumed his post over the company, is even more publicly shy than Stempel. As president, and later chairman, of Caterpillar-based GM from 1974 to 1980, Stempel rarely gave speeches or interviews. And when he did, he focused strictly on business, declining to talk about his personal life. He was born in the rural southwestern Ontario town of Listowel in 1927. But his family moved to the United States when he was a boy, and Stempel became an American citizen before he joined the U.S. Navy in 1945. Married since 1950 and the father of four grown children, Stempel is an avid fly-fisherman. But he clearly prefers to be recognized for his business accomplishments.

As first glance, his 38-year career in the soap-and-toothpaste business hardly appears to

before he resigned, GM's stock climbed by more than \$4 (U.S.) a share to \$23.50 (U.S.), on the New York Stock Exchange based primarily on the rumors of his imminent departure. The day he stepped down, those shares jumped by another 43 cents. Declared Joseph Phillips, an industry analyst with the New York City-based brokerage firm Lehman Brothers, "What GM needed is a real prick. And that is not Bob Stempel."

By the end of last week, however, the shares had slipped back to close at \$20.75 (U.S.) after the company reported a loss of \$933 million for the third quarter. That was less than many analysts had predicted, but it illustrated just how grave the auto giant's problems are. Despite the reassurance of the stock, analysts predicted that the board will likely give GM president John (Jack) Smith, a 30-year company veteran and Stempel's choice to succeed

Business Notes

IMPROVING THE CONNECTION

TriTelco Canada, which has a monopoly on all overseas telephone calls from Canada, has formed a consortium with 26 European and American telecommunications centers to lay a new fiber-optic cable under the Atlantic Ocean. The \$462-million cable will have 300 per cent more capacity than existing fiber-optic cables and will be the largest direct link available for telephone companies from North America to Germany, Britain and Scandinavia.

SHAKING THE GENTLES

New York City-based Moody's Investors Service Inc. announced that it plans to review Canada's foreign-currency debt for a possible downgrade. The credit agency will first \$1.4 billion worth of federal government and Crown corporation debt. Concerns about Canada's continuing recession, the country's political uncertainty, the high level of unemployment and the huge federal deficit caused the review. The rating agency also placed the long-term debt of the Toronto-based Toronto-Dominion Bank and the Montreal-based Royal Bank of Canada under review and downgraded \$1.8 billion of long-term debt held by Canadian Pacific Ltd. of Montreal.

BACK TO THE DRAWING BOARD

The boards of Air Canada and PMA Corp., which owns Canadian Airlines, rejected a plan, advanced by a committee of officials from both companies, for a merger of the two debt-ridden air carriers. The companies have asked the National Transportation Agency to delay merger hearings scheduled for Nov. 9.

REVERSING THE TREND

The Bank of Canada's benchmark rate plunged more than a full percentage point, to 6.30 per cent, as international currency markets remained stable after the Nov. 6 vote in the constitutional referendum. It was the biggest single decline in the rate since October, 1987, but it remains above its 39-year low of 4.40 per cent, reached in September. Weak growth continues to plague the government and the economy, threatening to increase the 1988-1993 deficit by \$9 billion over its \$27.5-billion target.

PAINTING A ROSSIER PICTURE

Statistics Canada reported that the Canadian economy grew by 0.5 per cent in August, its best performance in more than a year. The largest gains were made in the manufacturing, mining, utility and forestry sectors.

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Stronach as chief executive, a year at most to make dramatic reforms.

Many leaders also expect the new management team to merge the two mass retailers than Stronach did—and they are growing for a combination. GM's current three-year contract with the United Auto Workers, which represents 200,000 GM assembly-line employees in the United States, expires in September. Michael Sullivan, a full-time union representative at a car parts plant in Lordburg, Ohio, said that the 2,500 assembly-line employees at the factory "are scared; they don't know what is going to happen." Still, Sullivan said that union members are ready for a fight. In August, the Lordburg employees went on strike for a week after the international plant to close a tool-making shop and lay off 360 workers. That strike, in turn, forced six other GM plants across North America to shut down because of parts shortages, and cost GM an estimated \$70 million. Sullivan said that Smith and his new management team "should think twice before they try to downsize outside the collective agreement."

In Canada, by contrast, both union leaders and General Motors of Canada Ltd. spokesmen said that Stronach's departure likely will have little effect on the company's operations. GM-Canada has already paid a substantial price under the cuts that Stronach ordered in February: a factory and part of an engine plant in St. Catharines, Ont., which together employ 2,300 workers, are scheduled to close in 1995. Industry experts say that it will take the new team a lot longer than six months or a year to turn GM around. They argue that GM was already a deeply troubled company when Stronach assumed the top job two years ago, and they lay much of the blame on Stronach's predecessor, Roger Smith.

During the 1980s, GM's share of North American car sales slipped to about 35 per cent from 45 per cent as car buyers switched to smaller, more fuel-efficient Japanese cars. But because the overall car market expanded, GM continued to enjoy strong sales and record profits. But Smith, afraid of losing the bulk of that money as mass up-to-date models, channeled much of it into a costly drive to replace workers with robots and into questionable cost-cutting investments.

One of Smith's most troublesome acquisitions was his 1984 purchase of French electronics Ross Perot's computer, science, electronics, data systems, for \$3.1 billion. Smith included Cadbury and a unit as part of the deal as part of the deal. But almost immediately, Perot began criticizing Smith and GM's isolated management structure. Two years later, GM paid

\$550 million—twice the market value—to buy back Perot's stock and remove him from the board. "GM invested about \$500 million in the 1980s," said Susan McNaughton, an economist at the University of Michigan's Transportation Research Institute. "Almost none of it was on product that the market wanted."

In fact, McNaughton and many other experts say that under Smith, GM lost touch with North American car buyers, grew inefficient and was too slow to react to changes in the marketplace. Smith's 1986, GM was producing 33 different two-door coupes. At that point, America had just had lots and people were all out looking for four-door family cars."

As well, GM's complex and hierarchical organizational structure, in which the design, engineering and marketing of a car are handled by separate departments, made it almost impossible for the company to shift directions quickly. In the case of its highly respected Saturn model, Smith announced plans to build the car in 1984. But it took \$4 billion and thousands of employees to bring it to market in 1990. By contrast, Chrysler Motor Corp. spent just over \$5 billion over 26 years to develop its popular new line of compact cars. Chrysler achieved huge savings by adopting a Japanese team approach to developing a new car, hiring designers, engineers and production and sales staff—a total of 741 people—together from the beginning.

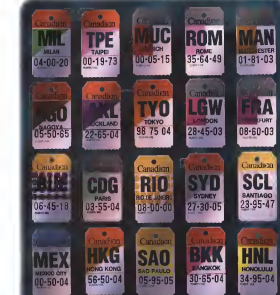
Smith also suffered his worst reverse with the highest production and sales costs in the auto industry—and the most excess capacity. According to the Troy, Mich.-based automaker, GM spends \$1,200 on labor to assemble a \$30,000 car, compared with \$185 for Chrysler and \$300 for Ford Motor Co. As well, instead of taking advantage of bargains offered by independent parts suppliers, GM still makes 90 per cent of its own parts, compared with less than 40 per cent for Ford and just 33 per cent for Chrysler. And overall, GM has the capacity to produce 7 million vehicles in North America, but last year it only built 4.4 million.

Even such GM assembly-line workers as Stoney Creek now acknowledge that GM will soon be a smaller company. But unlike foreign employees, he has several options. Under contractual layoff provisions, Stoney Creek will have a choice to transfer to another plant in Arlington, Tex., before the Tofoli factory closes next year. He is also prepared for a time when there is no place for him at GM. Earlier this year he obtained his state home-builder's license. For both GM and its employees, the road ahead is rocky and uncertain.

JOHN DIER with JILL CAZZINI in Toronto



Stoney Creek 'I could not in good conscience continue'



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Workers underground: many remote communities depend on mining for their future

Digging for dollars

Mining is trapped in hard times

Mining prospector James McDougall says that he would estimate the Windy Craggy copper deposits in the remote northwestern corner of British Columbia something a little less lustrous—if he could. McDougall, 46, was a young geologist in the summer of 1968 when he discovered one of the now, potentially treasure-filled deposits in Canada. Now, 34 years later, the B.C. government has denied the property's current owner, Golden Resources Ltd. of Vancouver, to temporarily stall its plans to develop a mine at Windy Craggy. Under pressure from environmental groups who want the area preserved as a wilderness park, the province withdrew the company's right to mine the site, but only after Golden had already spent \$50 million exploring it. McDougall says that he regrets that his former boss chose such a good name for the isolated spot. "That name scares everybody at Golden," said McDougall. "A park with a mine like that would attract lots of tourists. The Germans would love it."

For the Canadian mining industry, Windy Craggy has become a notorious symbol of the barriers placed in the way of mine development by politicians, environmentalists and others,

recently advocates. But the miners' vocal concerns represent much more than the griping of a special-interest lobby group; they also focus attention on the increased pressures on their industry, coming with a punishing world-wide recession that has driven prices for metals and minerals dramatically downward. Indeed, from the Windy's coal mine disaster that killed 38 miners in Nova Scotia in May, to the mine rescue who died in the Giant mine explosion in Yellowstone in September, which police speculate could be homicide, the once-vital Canadian industry is beset by both natural and man-made disasters.

None of those problems is more serious for the sector's long-term health than the puzzling failure of its exploration efforts in the past decade to discover significant new mineral deposits. The dwindling discoveries of reserves will result in fewer mines being opened in the future to replace those now operating.

A sobering report prepared by a government-industry study group and delivered to the annual meeting of provincial mines ministers in Whitehorse in late September concluded that as a result of the poor exploration results, "Canada's mining sector could actually

shrink." Thomas Waterland, president of the Mining Association of British Columbia, is even blunter. "Right now, it seems like the mining industry has bailed out at 12,000 feet, and I am not sure the parachute is going to open," he said. "We could very well go through a period of time when we do not have a significant mining industry."

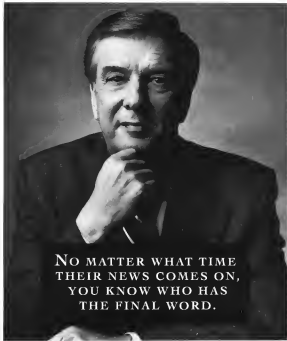
With such a bleak outlook, McDougall and the rest of the mining industry are threatened by the allegations to Windy Craggy. McDougall, who stands to collect a tiny portion of the Windy Craggy's estimated lifetime revenues of \$3 billion, says that he has already seen too many potential mines turned into parkland. "I've had such bad luck with parks," said McDougall, who lost another promising deposit 50 years ago when the B.C. government created Strathcona Park around a site he had staked on Vancouver Island.

In an environment with so many political uncertainties and depressed earnings, Canadian miners slashed their exploration spending to just \$650 million in 1991, down from a peak of \$1.5 billion in 1988. As well, a significant proportion of those funds are now directed to projects outside Canada. Robert McRae, president of Vancouver-based Comstar Ltd., says that his company currently spends more than half its exploration budget outside Canada, and that the percentage is growing.

He noted that part of the reason for the shift in the political climate in Canada, which makes it difficult to develop a new mine if a company does manage to find a promising mineral deposit, "Windy Craggy is an extreme example," said McRae. "Golden spent millions of dollars with the expectation that, if they could meet the mining standards and environmental regulations, they would be allowed to develop a mine. Then the government changed the rules."

But there is one other equally compelling reason why such companies as Comstar are moving their exploration efforts out of the country: the risk and economic dependence in countries that include Chile and Mexico. Said George Miller, president of the Ottawa-based Mining Association of Canada: "One mining executive has said that to find a ton of accessible ore outside Canada costs just one hundredth of the cost of finding it inside Canada. That's a startling statement." In addition, some mining operations in other countries also benefit from lower costs because of weaker environmental standards, lower wage rates and more favorable taxation policies.

The global mining industry, says Miller, may



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now he going through a transition period, in which developed countries like Canada, which may have already found most of their easily accessible surface deposits, are less attractive locations for exploration than places like eastern Europe or South America. "We had a kind of a bottleneck in those countries," said Miller. "Now, we have let the grass out of the bottle. Those who get there in the next 10 years may find a treasure house."

Most mineral geologists agree, however, that Canada still has a generous share of the so-called elephant deposits, the massive ore bodies that every prospector hopes to find and every mining company hopes to own. But Miller says that most of the large deposits are now more likely to be found at least 300 yards underground instead of being near the surface as-fish often were in the last century. Mineral geology and exploration technology for finding those deeper deposits has yet to be perfected.

The growing despair of the Canadian mining community has, however, captured the attention of at least one unlikely ally. Industry leaders say that Shirley Martell, Ontario's northern development and mines minister, is aggressively attempting to improve their fortunes. "The new government in Ontario has been so bloody supportive," declared Preston Scott, president of the Prospectors and Developers Association of Canada. "You dare not have to turn away for fear the minister is going to lose you."

Indeed, while Ontario's government is short of cash for many other programs, in mid-September it ran a \$250,000 television advertising campaign extolling the virtues of mining to viewers in southern Ontario. In one 15-second commercial, the Toronto SkyDome deconstructs as its mineral-based components vanish. The ad concludes: "Ontario's mining industry—an important part of your daily life." Martell, a native of Sudbury, Ont., the self-proclaimed Nickel Capital of the World, said: "Mining is tremendously important in a greater share of wealth for this province. It gives us some of the money we need for things like health care, education and other social services."

But there is little that any level of government can do to improve the industry's disappointing exploration results. Despite the record amounts of money spent exploring for ore bodies during the 1960s, a period when Canada led the world in mineral exploration spending, the returns were relatively modest. "Companies found only about one-quarter of the quantities of base metals that they had discovered in Canada in each of the previous decades between 1949 and 1979," said the report of the industry-government study group. "No truly world-class deposits were found, and only about half of the discoveries made during that period appear viable under today's pre-cost considerations." In fact, with the exception of gold, the known accessible reserves of all the other major minerals actually declined during the 1960s because existing mining operations depleted them faster than they were replaced by new discoveries.



Arison: "This is about the worst it has ever been."

As a result of those converging problems, the decline of the domestic mining industry is now well under way. In 1991, 33 mines closed and just 16 opened for, in some cases, replacement. This year, the Mining Association of Canada predicts that 20 mines will close and

only seven will open. That decline is leaving victims. Donna Fries, a Falconbridge exploration manager based in Timmins, Ont., helped lead a group called Save Our North to lobby for economic support for Northern Ontario. "Timmins used to be the exploration capital of Canada," said Fries. "Now, you can find lots of unemployed geologists out there driving cabs and selling pizzas." Thomas Arison, for one, a veteran geologist from Whistler, Ont., has been looking for work in the mining industry for two years. "I have been in this business a long time, but it seems to me that this is just about the worst it has ever been," said Arison, who has two university degrees. "My wife tells me I should put in an application to be a school-cleaning lady." Meanwhile, in British Columbia, the government's upcoming decision on Wusky Craggy—whether it okay for or against—will be regarded by the mining industry as a sign of things to come.

REBECCA DILLGUTH



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Turning the tables

O&Y proposes a new restructuring plan

They have clashed publicly in court. They have fought bitterly for months in closed-door negotiating sessions. But in the end, an international cast of creditors, owed \$5.6 billion by Olympia & York Development Ltd. (O&Y), may be forced to give up just what there is no quick fix for the financial woes of the bankrupt Toronto real estate company. Last week, that line of realignment became apparent when O&Y filed a corporate restructuring plan in the Ontario Superior Court. Despite their initial list of demands, the creditors, who conspired with the company as the proposal was developed, gained little new ground. The Richman family, which controls the private company, is still deeply involved in its management. The long-awaited plan also incorporates a traditional position for the Richmans and their advisers: it will take up to five years before North American real estate and natural-resources markets recover enough to enable O&Y to pay back more than 100 creditors around the world. Said Gerald Grunwald, president of O&Y, "This [restructuring] company will be able to benefit from any future upturn in the Canadian and exotic market."

The most recent admission to the court marked the second time that O&Y's management has tried to win over its creditors with a complex attempt to reorganize the company. In April, creditors rejected a proposal that included many similar features: the extension of various levels of debt maturity by five years, the liquidation of non-core investments from the O&Y portfolio, and the issue of equity to lenders. The company presented a preliminary second plan in August but it was not put to a creditor vote. But what his license necessarily clear is that because of the enduring economic recession, O&Y's creditors may have little choice but to accept the company's latest offer.

"This is not another typical downturn in the cycle," said Harry Resnick, a veteran real estate analyst with McLennan McCarthy Ltd. in Toronto. "We haven't seen a real estate market like this one since the Depression."

That gloomy perspective is echoed by financial-services analyst Steven Krenner of Midland Walwyn Inc. in Toronto. He said that the four major Canadian banks, which are among O&Y's largest and most contentious creditors, will likely co-operate with the company's proposed financial restructuring plan out of necessity. "Whether they like it or not, the banks know that liquidation of O&Y's assets just won't fix," said Krenner. He added, "They may have reservations, but they'll want for their payback because they have to." But Krenner also noted that since the banks have written down the loans to O&Y 44 per cent, the pressure on them has also been reduced.



Grunwald: waiting for a recovery

Among the many components of O&Y's latest plan is a proposal to issue new bonds to its unsecured creditors, who are owed about \$4 billion. Those bonds will not bear interest, but if the company is unable to redeem them after five years, they will be converted into a 90-per-cent equity stake in O&Y. O&Y is also proposing to form a joint venture with four Canadian banks, the Canadian Imperial Bank of Commerce, the Bank of Nova Scotia, the Royal Bank of Canada and the National Bank of Canada. Those banks would hold 80 per cent of the new entity and another new company, O&Y Properties, would hold 20 per cent. Among the assets held by O&Y Properties are Fort Couchesac Place, the Exchange Tower and Scotia Place, all in Toronto. To fund the joint venture, an outstanding O&Y loan of \$131 million would be converted into capital and the banks would also extend a new \$50-million credit line.

Despite the frequent complaints by creditors about the Richmans' continued involvement in O&Y, the plan calls for the family to continue appointing one-third of the directors on the corporate board. Creditors and independent directors would still be the risk of the seats. The company hopes to win the approval of 34 separate classes of creditors by the end of November. But several O&Y's elaborate proposal was approved, such as severely depressed real estate markets could draw out the settlement process for many years to come.

DEBORAH MCINTYRE



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The tragic death of the age of consent

BY PETER C. NEWMAN

There's been too much already written on the referendum issue. It's time to move on to more significant concerns, such as trying to reverse our ongoing economic decline.

But before the Charlevoix-based accord sweeps forever into some academic gloom, where it's disconnected from time to time in a model of how not to market a constitution, it's worth taking one last glance at what we lost. The document has been roundly condemned for being too much of a compromise. That turned out to be both its strength and its weakness. The strength lay in the autonomy of its birth, with each of the accords' 17 negotiators willing to surrender part of his or her provincial, regional, ethnic or personal agenda in return for granting what they considered to be the national interest.

They knew only too well that the final deal would be far from perfect. No constitution is, or can be. Constitutions are living documents, regularly reinterpreted later in life, sessions in hot rooms by sovereign negotiators' assents to give some senseless, then in consultation, signed so they can go home and educate their colleagues in more productive discourse—or go fighting.

It's the evolution of a constitution that is its greatness, not its genesis. The Charlevoix architects knew that, and they all gave in to one another's demands to produce an operational compromise. In the referendum that followed, those acts of understanding proved to be the document's undoing. Every special-interest group in the country took on the accord's promises and found them wanting. And so they were, but only in the sense that they didn't fulfill their specialized agendas. Judy Rebeck went on the campaign for women's rights even though constitutional experts of both sexes declared that no country on earth provided so much protection for the feminist creed, particularly in the Charter of Rights and Freedoms. Her protests guaranteed that every judge asked to rule on the issue would be born in the Stone Age and would ignore contemporary realities.

The only acceptable politicians will promise nothing. And that's exactly what people expect they will deliver.

Stentent of all was the fate of the enlightened provincials in the accord granting aboriginals the right to self-government. That's a basic and portable claim and a reason Indian, Inuit and Métis expectations to a point well beyond where they can be offered justice. In the campaign's final days, even Ovide Mercredi, the now-discredited National Chief of the Assembly of First Nations who had been more out of the deal than anyone else, began to back off—apparently and wrongly promising that such an ever-larger deal could be negotiated in another constitutional conference.

That opportunity died on Oct. 26. No federal politician is his or her key right to stand outside constitutional reform for at least another decade—and there, only through a mechanism that has yet to be invented.

At another level, the voters' rejection of their elected representatives raises the troubling issue of Canadian democracy's future. There remain only 260,000 voters in Quebec who are eligible to vote in the next provincial election, and only those who don't enjoy it. Now, we are entering the age of the special-interest plebeians. They are out on unemployment or on the street beyond their narrow self-interest. Their causes cannot be broken. They're safe and fall on one-size parties.

It's a hell of a lot to run a country.

A story that illustrates better the state of politics in this country than any field of criticism or means of boring academic rhetoric survives the Oct. 29 municipal election in Edmonton. That election had nothing to do with the constitutional accord or the referendum. Among the most officials chosen was Christine Hulse, who was a seat on the city school board. There was hardly a standard campaign. When she had her nomination papers signed, she had to swear that all of the signatures resulted in her riding. She did that, but to her horror found out later that one of them lived outside its boundaries. Being a surprisingly honest person, she realized she had inadvertently sworn a false statement, and quietly withdrew from campaigning, though it turned out to be too late to remove her name from the ballot. Her 10,000 votes stayed in her basement, unobserved, though she tried to tell them to Audrey's Bakery as staffers to put under their coats.

She was the only candidate who made no speeches, knocked on no doors, spent not a minute campaigning. On election day, she led the polls. Her campaign showed that the only acceptable politicians will promise nothing. And that's exactly what people expect they will deliver.

This aversion to the political process is, of course, the referendum's most significant fallout. If the message sent by the voters' mandate. No vote was that they no longer trust anyone they themselves democratically elected, how do we choose our leaders, and how will they be able to govern?

Michael Macgregor, the British philosopher-magistrate, was once asked to define the ideal government. He thought it over for a moment, then, eyes twinkling, shut back. "An oligarchy tempered by assassination." That's a laudable prescription, but it does at least allow somebody to take charge—well, temporarily, anyway—and provides for the ultimate, if elusive, renewal of leadership.

The fight from politics was legitimized in Canada by Pierre Trudeau's Charter of Rights and Freedoms a decade ago, which in turn, well be far more important to shaping the Canadian future than any constitution—argued as it was, it has been the country's application of the Charter that has so divinely altered Canada's social contract between the governed and the governors.

But there's a danger in allowing special-interest groups self-interest to bypass the political process. Political parties may have been lifeless since that organized speeches for power. But they did provide an essential brokering function, a mechanism at the centre that could formulate policies which, according to the United Nations, give Canada officials the best quality of life on earth.

Now, we are entering the age of the special-interest plebeians. They are out on unemployment or on the street beyond their narrow self-interest. Their causes cannot be broken. They're safe and fall on one-size parties. It's a hell of a lot to run a country.

MEDICINE

Picking a baby's sex

Preselection clinics spark an ethics debate

The idea of improving the human race by breeding babies with desirable characteristics can be traced back to ancient times. In the fourth century before Christ, the Greek philosopher Plato envisaged a society using selective breeding to produce superior humans. In 1963, an English scientist, Francis Galton, came up with a name for the idea: eugenics. Under Adolf Hitler, the so-called science of eugenics was widely discredited when the Nazi dictator used it as a rationale for trying to create a "master race." Now, some futuristic biologists believe that they think the day may again be opening to similar tendencies with the spread of clinics that allow couples to try to perfect the sex of their child. According to the critics, it is only a small step from deciding whether to have a boy or girl to thinking of children as commodities at which any number of features, such as hair color and intelligence, might someday be available on demand.

The day is probably in the remote future. The technology needed for engineering human beings does not exist. Selecting the sex of babies is another matter. In the United States, where some sex preselection clinics have existed since the mid-1970s, studies show that parents using their services have about a 70-per-cent chance of having babies of the desired sex, improvement over the roughly 50-50 odds that occur naturally. In Canada, two sex preselection clinics are operating in Toronto—one for four years and the other since September. But the supporters of a proposed Vancouver clinic said that it may not open following protests from feminist groups.

Sex preselection clinics use a technique developed by Ronald Brinson, a reproductive biologist from Alaska. Most, after obtaining a sample of the father's sperm, technicians use a patented process to separate cells carrying an X chromosome, which will produce a girl, from those carrying a Y chromosome, which will produce a boy. The mother is then inseminated with a sperm solution containing a concentration of the right chromosomes.

The practice has sparked an ethical debate. Some feminists say that they are concerned that many couples, including those from some Asian and Middle East countries, almost always opt for male babies, which are considered more desirable in their cultures. Critics say that this practice could have long-term repercussions for society by skewing the ratio of



Baby boys continue to be the ratio of men and women.

men and women in some population groups. "The biggest threat of medical science in having society's contempt for women," says Susan Alderman, a member of the Vancouver-based

South Asian Women's Action Network. Still, some experts say that the alarm expressed by critics of sex preselection may be unwarranted. According to Dr. Patricia Baird, a Vancouver pediatrician who is chairman of the federally appointed Royal Commission on New Reproductive Technologies, a survey that the commission ordered showed that most Canadian couples want children of both sexes and that they do not value one sex over the other. Baird's commission, which could form the basis for future legislation, has a mandate to study new reproductive techniques, including in vitro fertilization and artificial insemination. Baird said that the commission's final report, expected "soon," would contain recommendations on sex preselection clinics, but she would not give any more detail. Baird said that it is important for Canadian society to take a close look at the issue. She added, "The best battle against abuses of reproductive technology is to know about them, and participate in talking about them." So far, the discussion has not climaxed the rift between those who want to choose the sex of their babies and others who find the practice abhorrent.

BARBARA WICKENS

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Autism's rich reality

A sufferer sheds light on a mysterious disorder

As she walked through the streets of downtown Toronto late last month, Elizabeth Miller felt like a stranger. Williams suddenly stopped and pointed to a solitary maple tree with yellow autumn leaves. "It's as though it was covered with pearls," she said excitedly. "And it's not that a lot of maple trees together. In a group, they just look like a jungle." ■

Spontaneous and observant, Williams is engaged in a constant struggle with the world, a struggle to sort out images that may be too bright for her to absorb, noises that may be too loud, and conversations that may carry no meaning, although the individual words are understood. Vivaciously described as "weird," "a weird," or "quirky" by her own family, Williams, now 29, was in her mid-20s before she learned that she suffered from autism, a devastating neurological disorder that affects about 10 out of every 10,000 Canadians. To its casual degree, Williams has encouraged not above the limitations of her disability and now is able to reveal to the world much the mysterious inner life of the autistic.

The condition has long confounded researchers. In 1943, Leo Kanner, a psychiatrist at Johns Hopkins University in Baltimore, first described autism as a childhood disorder that the cause and present nature of the syndrome remains unresolved in mystery. Afflicted children appear withdrawn, speak later or not at all, and some recall from any kind of physical contact with other humans. And while about 10 per cent of people with autism are eventually able to live and function independently, many others have great difficulty developing even rudimentary interpersonal skills in their autobiography. Nobuko Niwa, published last month by Doubleday Canada, Williams offers a view of what autism feels like from the inside. Williams's book is part of a series of new information and research that is slowly beginning to shed light on one of medicine's most poorly understood disorders. Said Margaret Williams, executive director of the Toronto-based Genesis Centre, which provides support and education for the autistic and their families: "Because it is a silent affliction, this is one of the few remaining medical frontiers. But new research is beginning to shake the bedrock of what we know."



Williams, engaged in a struggle with the world

born in Jamaica, Williams was raised in a family that refused to accept her alienating actions as anything other than a form of willful misbehavior. (To protect her own privacy and that of her family, Williams chooses to disclose only after she has travelled to Europe to her well-trodden, written the story of her life and allowed the manuscript to be selected by Kanner, a psychiatrist at a hospital in London, England, where she was working as a secretary, that she discovered she was autistic.

After that, Williams says, the world seemed to open up to her. She consulted experts in autism, who helped her to understand her disability and provided strategies for communication. Autistic experts advised some of the differences between the way people with autism and others relate to the world, Williams says that she has begun to understand much of what had been experienced to what had been experienced to her. Brothers, who often appear to lack human emotions because they fail to respond to accepted social signals, such as smiles and conversational cues that indicate pleasure, anger or other emotions.

Despite the difficulties she describes in her book, Williams in person is talkative and responsive. She prefers to meet people outdoors, and although she is almost impossible of ordinary small talk, she responds calmly and honestly to questions. She is also brave. As she approached Street Street at Toronto's downtown core during a recent interview in October, one of the world's longest Toronto Blue Jays baseball team, who had just won the World Series, was filling the air with loud cheers. Although Williams was clearly intimidated by the noise, her determination to visit a draught on the other side of the intersection was not and she crossed, with a sheep working to her companion not to touch her. When she entered the brightly lit store, Williams put on dark glasses, because she says that bright lights cause her to feel intense discomfort.

Still, Williams says that the world is many ways his become a safer place for her. Because she is able to tell others about her disability, they now take account of her needs, and do not frustrate her by expecting her to respond as other people do. She has also come to recognize that her talent for music can help connect her emotionally to other people. Said Williams: "I now feel that emotions are the key to experiencing life instead of just functioning. It is the difference between appearing and being."

Williams's own history over adversity has coincided with a growing interest on the part of medical researchers in autism and its causes. Until recently, some experts believed—erroneously—that most autistic were mentally handicapped. There was also a widely held theory that autism was the product of so-called bad mothering. That belief has now been discredited. Dr. Peter Szatmari, a consulting psychiatrist at the Chedoke-McMaster Hospital in Hamilton, Ont., says that autism is thought to be caused by defects in the brain, possibly in the limbic system, an area deep inside the brain that is believed to be the center for the regulation of emotions. In some cases, the defect appears to be genetic, while in others it is associated with viral diseases. But in

most cases, the causes are simply not known, Szatmari said.

Meanwhile, a new way of teaching people with autism to communicate appears to be helping some victims of the disorder and their families. Known as facilitated communication, the method includes the use of computers,

typewriters and alphabet boards to help autistic express their thoughts. Elizabeth Miller of Hamilton, Ont., 40 km north of Toronto, says that the system seems to have helped her autistic daughter, Jessica, 31, to express some of her reactions. Now, after years of schooling specialists and receiving special teaching, Jessica is able to maintain a close relationship with her younger sister, who is not autistic.

Miller, who says that she felt lost when she learned of her daughter's disability now has hope that Jessica may someday be able to function independently, or at least semi-independently.

That is not unlike the optimism that has permeated the life of Williams, who says that she has always known many happy moments, despite the terrible obstacles she faced. "I'm always captured by the 'wonderful' sense of things," says Williams. In learning to communicate so fluidly with others, Williams has made it possible for the world's most autistic majority to know something of the strange, rich reality in which she and other autistic live.

Miller and daughter, Jessica: hope for independence

PATRICIA CHISHOLM



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Stardust memories of the 1992 Series

BY TRENT PRAYNE

Of the distant miles of the year 2012, will it be a where were you when question? Will it be like this past September when the Paul Henderson miracle celebrated its 20th anniversary? And if it is, what delicious segment at the 1992 World Series triumph at Canada's home, Vancouver, and teammates, the Toronto Blue Jays, will we cherish the most? Who will be Paul Henderson?

Paul Henderson I ran into him at a restaurant a couple of years ago and he looked at me as he'd looked that night in Moscow. A little grey showing at the temples, perhaps, but otherwise ready to go out and play his wrong wing as he'd done back in 1972, a right hander scoring up and down the left side.

This was a couple of years before the big 30th anniversary celebration. He had reached his 40th, his 50th and 60th, meeting a perfectly old Paul Henderson with a white shirt and a blue tie, the same best from some long-ago earnest hockey stick. "Do you think of it much?" I asked. "The goal, I mean."

He had a ready answer. "It comes up all the time. Every time I meet somebody new, they bring it up. They say where they were and what they were doing. I was at least 300 days of the year, probably more."

So the question arises, in 2012 when the Blue Jays from another long-back the ball players who won Canada's first World Series for a redemption, which play will evoke the fondest memory? And what miracle?

Maybe Dennis White. Was there ever a catch this side of Willie Mays reaching out from under his cap in the Polo Grounds in 1954 to snatch What's over of the long low smash by Atlanta's Dave Justice? White took one look, turned his back, ran in smooth, leggy strides to a point, maybe two yards shy of the looming blue centre-field fence, and then turned his head and caught the ball in his outstretched glove as he planted himself face-first against the fence. The use of those two distinct phrases followed by a brisk walk

back towards second, then throwing three. Gruber chased him all the way and when he saw he couldn't overtake him he dived as Sanders's foot in the north Atlanta outfield leaped headfirst for the bag. The umpire said safe. Little attention was paid to Gruber's goal before the ump, Bob Davidson, later said that after seeing the replay and the pictures he "probably" had been wrong in his call.

In any event, Gruber and his moonrises are not candidates to share a podium with Paul Henderson, mid-number in Bob Davidson and severely neither in Bob's mid-air, ungainly Mike Reddy. Who will forget Jerry rolling Roberto Alomar out at the plate in Game 2? Alomar was at third base when National League strikeout king John Smoltz threw a wild pitch that his catcher Darrin Berryhill blocked but had to chase. An Alomar charged down from third, Berryhill threw to Smoltz too late to get Alomar sliding headfirst, hand out stretched, across the plate. The ump, who had his nose on top of the plate called Robbe out, another goat by one of the breed once clapped as suitable in the days before drama and instant replay. A big moment, but forgettable.

Moving right along, here at Dave Winfield the man herewith associated as the Paul Henderson of 2012. Dave became the team's emotional hero soon after he was acquired last December. He is an outgoing and personable man, and he is a player's hero, too, at 6'6" 160 and 265. However, by the World Series, a day late entered—or re-entered. In 1984, in his only previous Series, Dave produced only a solitary single in 22 at-bats, a barely visible .045 batting average. This was with the Yankees where he had been great at the spring, but in the fall, quite the opposite of slapper Reggie Jackson whose prominence in earlier World Series had led to the nickname Mr. October. Winfield's disenfranchised boss, George Steinbrenner, sneered at Winfield, "Mr. May."

The game resumed against Atlanta, but not at lower stakes and no extra-base hits to 25 at bats culminating the eleventh inning of Game 6. Then, with runners at first and second, Dave slashed a double into the left-field corner for the runs that won the Series. No more Mr. May. Still, while Winfield may be the man, his is not a moment owed to ignore, not the perfunctory respect of Paul Henderson dancing on his skates at front of the fallen goaltender Tremblé, arms upraised, face aglow.

Joe Carter and Mike Tianta taking to this everlasting, beloved stadium. It is Game 6, the last game, the bottom of the eleventh inning two are out, the tying run is racing from third base as the batter, Orel Hershiser, burns. Then, the young pitcher, dashes to field the ball and cannot not to hit the Orel Hershiser. Tianta, the young pitcher, dashes to field the ball and cannot not to hit the Orel Hershiser. Tianta, the young pitcher, dashes to field the ball and cannot not to hit the Orel Hershiser.

Then Sanders tagged up at second and took off for third. The ball went to Gruber at third and Sanders was caught in a rundown. But he escaped the trap, thanks to Gruber, who made a useful mistake. Instead of running Sanders



FILMS

Reel men never win

Movies are making a virtue of broken heroes

Maybe it is the emotional fallout of the recession. Maybe it reflects a general crisis in male self-esteem. Whatever the cause, in half a dozen of the season's new movies, the message is clear: real men never win. Reversing Hollywood's decades of tough, triumphant heroes, movies are making a virtue of broken men. Suddenly, failure is hot. The big screen's new heroes have better-than-average intelligence but they are men who have lost their place in society and will never get it back. Stuck in the past and confused by the present, they are dejected romantics playing out boyhood fantasies in a world that is quickly losing its patience. Their only redemption lies in accepting their fate.

In several of the new movies about tragic men, nature serves as an ally: a reminder of childhood innocence. Waterland stars Jeremy Irons as a history teacher drowning in memories of a traumatic adolescence in rural England. In *A River Runs Through It*, an elegant family drama directed by Robert Redford, fly-

fishing provides a truce between two brothers who have grown apart. *Of Men and Men*, meanwhile, resurrects John Steinbeck's Depression-era tragedy about five disaffected farm workers who form a fraternal bond in the face of cruelty and alienation.

In a more contemporary, urban, lost love romanticized tale, *Night and the City* stars Robert De Niro as an ex-lover whose woman makes a doctored attempt to become a leading actress in New York City. *Glengarry Glen Ross* features a parallel pool of Chicago real estate salesmen caught in a no-win game of Depression survival. And in the darkly comic, acerbically caustic *Reservoir Dogs*, petty gangsters play Truth or Consequences with guns in the shambles of a boarded railway in Los Angeles.

Many of the new movies are, at one way or another, about the playground, about the romance and cruelty of the games that boys play. In *Waterland*, based on the acclaimed 1983 novel by English author Graham Swift, a pensive young boy watches his father Tom Gresham (Robert Redford) lead his brother-in-law to his

Reel (left), Roth in Reservoir Dogs
heroes with beaten-down ambivalence

and in his marriage to Mary (Sissy Spacek). When a student (Ethan Hawke) says that bathing is pointless, Tom begins talking stories of growing up in the Fens, the flat English marshlands where East Angles bleed into the North Sea. And his memories coagulate into a gothic tale of murder, secret and madness.

American director Stephen Gyllenhaal has taken liberties with Swift's complex novel. His movie Tom's adult life from London to Pittsburgh and presents the flashback as a time-traveling tale trip, with Tom guiding the students through scenes from his past. Gyllenhaal's direction, combined with a clanging soundtrack, is at times heavy-handed. But with haunting images he captures the desolate beauty of the Fens and the best of adolescent sexuality. The acting, meanwhile, is exceptional. Playing Tom as a teenager, Grant Tinker looks a striking resemblance to Lewis Coswell, who's married to Irons in real life, cosplays his character's turbulent youth with borrowing emotion from, meanwhile, looking wonderfully rugged, surpasses his own past standards of brilliance with a mesmerizing performance.

A River Runs Through It is another lyrical family drama about irreconcilable love, and once again water plays an overpowering role. But the tale is more subtle in the telling. Set in rural Montana from 1910 to 1935, the movie is adapted from an autobiographical novel written in spare, staccato prose by American author Norman Maclean, who died in 1990. And director Redford has brought it to the screen with-out a trace. The story centers on two broth-

FILMS

ers, Norman and Paul Maclean, and their stern father, a Scots Presbyterian minister (Tom Sterry). Norman (Craig Sheffer) is the responsible one who goes to university in the East, then returns home and falls in love with a woman named Emily (Loree Lingo). Paul (Brad Pitt) is the reckless brother, a hard-drinking, premarital nonconformist who has built up a dangerous habit of gambling debts.

Like Redford's *Ordinary People* (1980), *A River Runs Through It* is about a family that has trouble communicating with itself. The outside world of money and success has left Norman and Paul estranged, but they find communion in the silent art of fly fishing, into a venerable metaphor, representing romance and fate, sex and death, science and religion.

The movie treats the sport as a sacrament. And its dispassionate images of male lives being cast over the water in slow, looping arcs are sheer poetry.

A River Runs Through It is clearly and deliberately crafted, like a piece of fine tapestry. At times it seems wooden, especially with Sterry's muted impression of a wise patriarch. But the technical artistry of Redford's direction is half the charm. And although the movie's anxious rendering of male pride is no closer to reality than a lebanese fly is to a real insect, it strikes home with a plain-spoken beauty.

Of Men and Men is another story of nostalgic men looking for a patch of peace and quiet in a hostile world. But the movie is several generations removed from Steinbeck's 1937 novel, reflected through previous generations in a 1940 play and a 1959 movie. The characters form a classic odd couple: the beleaguered Lester (Dale Midkiff) who doesn't know his own physical strength, and his charming companion, George (Gary Sinise), who tries to keep him out of trouble. Midkiff and Sinise played the same roles in the 1960 stage version of the novel.

Smart, who also directs, magnifies Steinbeck's vision of a fragile male, creating something closer to mythic realism than to social realism. His rural men are so pure that the dust of the Depression looks almost good enough to eat. The ranch where Lester and George first join stocking her in a paradise of unending cooperation, with a hint of non-attachment. But as another self with open eyes, clearly personified by the boss's bloodless son, Curley (Greg Kinnear), and his teenage wife (Sherryn Long).

What makes the movie engaging, for all its logic, is the emotional depth of Steinbeck's characters, which makes male heroes with natural compassion. Midkiff, meanwhile, has the virtuous role, using all the tricks

of his intelligence to create the diverting drama of Lester's romantic incompetence, under the director's subtlest of touches in *Star Trek*. Norman (Craig Sheffer) is the responsible one who goes to university in the East, then returns home and falls in love with a woman named Emily (Loree Lingo). Paul (Brad Pitt) is the reckless brother, a hard-drinking, premarital nonconformist who has built up a dangerous habit of gambling debts.

In Steinbeck's rural America, adventure means just a job or a piece of land, a chance to lead an ordinary life. But in the city, the American Dream becomes a quest for something that sets a man above the common herd. And perhaps no actor has personified the fallacy of that dream more effectively than Robert De Niro. As Isaac Lauderbach, one of Hollywood's great tragic heroes, in *Trading Vices* (1980), he said, "I could have been some-

thing, it fascinates the American Dream, stripping it to its most powerful elements. The characters are not looking for a piece of land or a shot at the big time. They are just trying to survive, struggling for dignity in a ruthless urban competition. The movie features the year's most remarkable performance, notably by Al Pacino and Jack Lemmon. And it doesn't even end with an anthropological curiosity—a professional dancer in a professional grade in a world where it seems to have lost its value.

Reservoir Dogs pushes the idea of professional artistry to almost extremes. Its professionals are in small-time gangsters. After a robbery that goes awry, they try to sort out what went wrong—and who inflicted. They wear identical dark suits, and their boss has given them some advice: like the characters in a game of *Clue*. Mr. Orange

(Tim Roth), who was shot in the belly, is blowing to death on a warehouse floor. Mr. White (Keanu Reeves) is a small-time gangster. After a robbery that goes awry, they try to sort out what went wrong—and who inflicted. They wear identical dark suits, and their boss has given them some advice: like the characters in a game of *Clue*. Mr. Orange

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A low-budget feature by writer-director Quentin Tarantino, *Reservoir Dogs* is funny, smart and brutally violent. The story unfolds in real time, combines the suspense of a stage play with the blood-quenching rhythms of a thriller. Like *Glengarry Glen Ross*, it features no cinematic cut exclusively made up of men. And just as *Glengarry Glen Ross* ends with a man in a suit, *Reservoir Dogs* is not really about fly-fishing. *Reservoir Dogs* is not about crime. It is about two: their unacknowledged romance with each other, and how they survive with competition, failure and compassion.

De Niro, too, is in former times. Pacino is a strong reminder of one of De Niro's previous characters, *Robert F. Kennedy*, the assassin candidate who tried to kill the way who always business conference in *King of Comedy* (1980).

But *Night and the City* doesn't, off force. De Niro plays Fabian for sympathy. And it is hard to believe that he is a man who is as much as a convincing loser—as the movie is trying to ensure that the combination of belief and delusional works in an approach to beautiful women.

As usual, De Niro gives a brilliant performance. But *Night and the City* plays too much like a one-man show. Director Irwin Winkler allows his star to flatten the story. The result is like seeing a playwright defend his title in a contest that has been fixed in his favor.

By contrast, *Glengarry Glen Ross* uses a well-balanced cast to tell a compelling story of real estate salesmen in danger. Directed by James Foley and based on David Mamet's 1984 play,

it recreates the American Dream, stripping it to its most powerful elements. The characters are not looking for a piece of land or a shot at the big time. They are just trying to survive, struggling for dignity in a ruthless urban competition. The movie features the year's most remarkable performance, notably by Al Pacino and Jack Lemmon. And it doesn't even end with an anthropological curiosity—a professional dancer in a professional grade in a world where it seems to have lost its value.

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ERIAN D. JOHNSON

Sexual wildlife

Three movies explore the jungle of passion

BEING AT HOME WITH CLAUDE
Directed by Jean Beaudin

The movie opens in black and white, with jagged images of Montreal at night. It is July, at the best of the jazz festival. Scenepieces, scenes and screens weave in and out of the sound track. The camera vents into an apartment where two men are making urgent love on the floor. There is a glimpse of a kitchen table, of a throat being slit. The latter flows into the night, dazed and confused. A few days later, he turns himself in to the police. Shifting to color, the movie picks up the story in the final hours of a long and relentless interrogation.

Based on the hit play by Quebec author René-Denis Robson, *Being at Home With Claude* is a drama of breath-taking intensity. Jacques Gaudin delivers a powerful performance as the enraged police inspector who digs the facts of the crime from Yves, a male prostitute who has killed his lover in the heat of passion. As Yves, Roy Day plays a less effective Yves with a hesitant, phony, that a much stronger than his acting, he is a poor substitute for the lean Lothario Blais, who played Yves onstage in Montreal and London.

Montreal director Jean Beaudin, however, directs with confidence and flair. The interrogation, which unfolds as a hot-blooded battle of wits between two men, echoes the sexual violence of the crime itself, which Beaudin repeats in a series of black-and-white flashbacks. He

shadows the device for two early, allowing the innocent movement to say—the movie turns back into a play. But even then, it remains a fully compelling drama of sexual obsession.

HURT PENGUINS
Directed by Robert Bergman and Myra Ford

It is one of those (arguably) films, like *Catcher in the Rye*—too obscure to merit explanation.

Ask to clarify the policy for *Hurt Penguins* says that it is "not a wildlife film, but a wild life about life." In fact, *Hurt Penguins* is a modest but thoroughly charming screwball comedy by a largely unknown group of Toronto movie-makers.

The story involves two leaders of a struggling rock band, Bennett (Michael Munn) and his lesbian boyfriend, Nick (Daniel Rinkel), who

be has faunted the band's first album. Probably, the rock ensemble gets out of hand. The story takes a delightfully unexpected twist at the end. And although the plot's unlikely premise is the stuff of high-concept fever, good acting and natural dialogue anchor it as realism. Making her screen debut, Mason, a Toronto-based theatre actress, is a revelation. And the movie's screenwriter, Myra Ford, who also co-directed it with Robert Bergman, adds a witty edge on-screen as Robin, Harriet's sardonic friend. Fresh, funny and smarter than it first appears, *Hurt Penguins* revisits the hot-house climate of English-Canadian film-making with a cool breeze of comic relief.

THE LOVER
Directed by Jean-Jacques Annaud

Every so often, a new movie comes along that is supposed to push back cinema's sexual frontier. The latest is *The Lover*, the story of a young girl's first affair, based on the 1954 autobiographical novel by French author Marguerite Yourcenar. The British tabloids have made a fuss over the age of its English star, Jade March, who was supposedly 15 when she filmed the movie's explicit sex scenes and who looks much younger on-screen. But March's timidity is an actress delivering dialogue with her clothes on is more embarrassing than anything she does with her clothes off. In fact, it is only during the love-making scenes that *The Lover* makes sense—as a celebration of skin-deep sensuality.

Set in colonial Vietnam in 1939, the story centres on two warring characters: a young French girl (March), who attends a Saigon boarding school, and a wealthy Chinese man (Yun Loang), who gives her a ride in his black, black limousine. She belongs to poor, scruffy family with no visible future; he is idle and cultured, a sensitive voluptuary. They conduct their forbidden affair in his luxurious house in Chinatown, with the light and sounds of the street streaming through the bedroom's blue shuttered doors.

Shooting on location in Vietnam, French director Jean-Jacques Annaud displays the acute visual sense that he brought to *The Bear* (1988), his remarkable movie about gradins. But unlike all the color and texture, the dress is killed. Annaud, who co-wrote the script with his longtime collaborator, Gérard Brach, films the lovers from an emotional distance, as sexual wildlife. And despite a sparse narrative delivered by a husky-voiced Jeanne Moreau, *The Lover* is a woman's story without a strong female character—just a pretty girl captured through the lens of male voyeurism.

BRIAN D. JOHNSON



Open & shut.

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Leung (left), March: a celebration of skin-deep sensuality

endanger their relationship to advance their career. Nick, the band's lead singer, is so frustrated by record-industry rejection that he is ready to take an after job in desperation. Bennett sees a potential angel in Jeremy (George Kagi), a model, balding televisioner who has an obvious affection for her. While Nick becomes increasingly sinister, Harriet recognizes Jeremy's true intentions—with the intention of letting him down gently once

The female eye

An author celebrates Canadian women artists

Between the 1820s and early-1940s, most Canadian art buyers knew what they wanted: landscape paintings, especially the rugged, bushbusting sort associated with the Group of Seven. But Suzanne Duquet, an accomplished painter who began teaching at Montreal's School of Fine Arts in 1951, preferred to depict people rather than rocky shores and windblown trees. Purely as a result, she has received scant attention. However, a new book argues that her subject

wasn't just a woman's choice but sometimes identified only in terms of "By a Lady." Women's names, Tippet writes, were "usually thought to be 'an embarrassment to their work'."

It is true, she notes, that painting was considered a polite accomplishment for well-to-do women, and that most of the early women artists were debilitated assistants. But there were fascinating exceptions: Frances Anne Hopkins, for one, travelled the fur-trade routes by canoe with her husband, Edward Martin Hopkins, a Hudson's Bay Co. official, in the 1860s. She



Duquet's *La femme en nuage: contours de neige*

submitted to art shows were sometimes identified only in terms of "By a Lady." Women's names, Tippet writes, were "usually thought to be 'an embarrassment to their work'."

Tippet's book is, in fact, the first history of Canadian women artists ever published. The author, a native of Victoria, was a Governor General's Award for her 1979 biography of West Coast painter Emily Carr, one of Canada's few well-known female artists. Tippet, who teaches part-time at Cambridge University and has residences in England and British Columbia, said in an interview last week that she began thinking about writing a book on Canadian women artists in the late 1970s. But she says that initially she wondered whether she would be able to unearth enough material. "If you go to the National Gallery in Ottawa, you may see four or five women's displays by Canadian women," said Tippet. A Canada Council grant enabled her to spend a year combing the nation's galleries, museums and archives. In the end, she said, she found far more evidence of significant artistic activity than she could possibly articulate. "Through these instances of art-making in Canada," she writes, "women artists have been ignored, forgotten and misinterpreted." Her book, she adds, "seeks to set the record straight."

The title of Tippet's book refers to a 19th-century practice that the author says she finds particularly disturbing: At the time, women's

exhibitioned her vigorous and detailed paintings of backwoods life at the Royal Academy of Art in London.

Tippet found only one painting attributed to Harriet Church, the daughter of a Colonialist, who lived in a Quaker Tavern near Colberg (1840) predates Church's marriage to Paul Kane, the celebrated painter of Indian and northern wilderness landscapes. Church, Tippet notes, was reputed to have assisted Kane in completing a series of 200 oil paintings, which were produced in a remarkably short time. Although the central figures in her

1849 tavern scene are awkwardly drawn, the painting's landscape background is deftly handled and stylistically in keeping with works that would later bear her husband's signature.

By the late-19th century, Carr and others were travelling to Europe to study, and the artistic gender gap began to close—gradually. Wherever female artists created work that "reflected their own experiences," Tippet observes, "they were considered out of step with, and therefore inferior to, the presumed male artists of the day." And when women did work within "the dominant male genre," Tippet contends, they were either ignored or dismissed as producers of second-rate art.

That prejudice, the author convincingly, in the late 1950s and 1960s, when various abstract art movements were on the rise. Male Montreal abstractionists, notably Paul-Émile Borduas and Jean-Paul Ringuet, received most of the glory while such gifted female colleagues as Lee Gervais and Marcelle Ferron, lagged on the sidelines. In the 1970s and 1980s, feminist art attracted considerable attention—but Tippet notes that women artists still receive fewer grants and tend to receive lower prices for their work. "In a society that measures artistic success in economic terms," she writes, "how can women hope to be viewed as anything but second-rate?"

By a Lady sheds richly deserved light on a number of overlooked and extraordinary artists, but the book also has some weaknesses. Some of Canada's most acclaimed and provocative female artists of recent years, including Jan Strubbe and Sherie van Halbe, are absent from its pages. And the most important artists featured in the early chapters, at best, disappoint. Tippet does, however, make a case for including such works. "One must consider the circumstances under which a work has been created, and judge it accordingly," she writes.

Tippet, 47, is currently working on a biography of the British abstract painter Ben Nicholson, who died in 1982. "He was a brilliant artist, and he's not all that well-known," said Tippet. She added that he married three times and that all of his wives were artists—the famous British sculptor Barbara Hepworth was number 2. Glowing with enthusiasm for her work in progress, Tippet declared: "One of the points I'm going to make in this book is the extent to which he led all of these women's ideas into his own work." As she points out in *By a Lady*, it is likely that many similar dabbles have gone acknowledged for a long time.

PAMELA VOING

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Press-club queen

A leading journalist worked and played hard

MARK MY WORDS: THE MEMORIES OF A VERY POLITICAL REPORTER
By Margaree Nichols with Joan O'Hara
(Doubleday & McFadden, 1997 pages, \$29.95)

In the 1970s, at the pinnacle of a 30-year career, Ottawa-based political columnist Margaree Nichols was the epitome of success—and excess. She drank too hard and smoked too much. The toast of Ottawa, she charmed out sharp-edged columnists during routine 15-hour workdays. Editors trembled at her wrath over a misplaced column; politicians who ranged out to her couch after all-night parties feared and respected her opinion. In the months before her death in December at 48, Nichols turned her ruthless wit upon its unlikely victim, herself. Called from tape-recorded sessions and embellished by fellow journalist Joan O'Hara, the collaborative autobiography *Mark My Words* is the pungent tale of a woman who waged a four-year battle against



Nichols: sharp-edged columnist, excess

cancer and drinking self-abuse as vividly as she portrayed political foes.

From the outset, the former-daughter-from-Rod-Deer, Mrs. X, was driven by a blend of stately determination and impulsiveness. She won a dazzling succession of awards early in her career, winning positions as provincial and then national columnist at *The Vancouver Star*. There, her astute political analysis and lapidary but temper-tamed barbolic style won status among both peers and victims.

The decade that Nichols wrote—and, perhaps, seemingly—portrays in her book began even before the discovery of cancerous tumors in her lungs in 1968, two years after she joined *The Ottawa Citizen*. To her diary, the decade slapping, hard-drinking Ottawa where Nichols reigned supreme in the mid-1970s had changed drastically. As Nichols's longtime friend Patricia Weller told O'Hara, "She was a woman who transmitted a very old-fashioned system.... It was a view of the political process that was dated, but not wrong. It's just that the world had changed, and she hadn't."

As a critic reporter with the now-defunct *Ottawa Journal* in 1962, Nichols had one belly conviction: "No one" she recalls in the autobiography, "would work longer hours or work harder than me and no one was going to get any story away from me." She may have been one of the last, and most controversial, proponents of a dying idyll. But Nichols stayed true to that approach to the end of her life.

IL KATE FULTON

Speaking a volume

An author examines the world of words

TALK TALK TALK

By Jay Ingram
(Piking, 338 pages, \$19.95)

There is so much going on in this book, according to Canadian science writer and broadcaster Jay Ingram, in *Talk Talk Talk*, his lively new book on the mysteries of speech, he maintains that every time two people exchange words they perform a feat of physiological wonder. Speech, says Ingram, is laden with history and steeped in the give-and-take of human relationships.

It's the ease of language that allows us to forget how complex it is," he writes. His lively book makes it hard to speak without marveling, at least for a moment, at how much goes into the most casual conversation. Occasionally, Ingram's somewhat breathless prose betrays his roots as the former host of CBC Radio's *Quirks and Quarks* science program. Still, in the tradition



A conversation: hearing for the very first language

of Stephen Jay Gould and Oliver Sacks, he manages a delicate trick—making the minutiae of science seem alluring to the uninitiated.

Ingram's anecdotes and asides as he explores the human phenomenon of speech. His

book is a witty primer on how people speak and listen, how the brain controls conversation and how children learn to talk. But he also plays detective, investigating the roots of speech while hunting for the first language ever spoken, which some linguists contend can be traced back to a single word, *ah*, which meant "see," "pointing finger" or simply "finger."

As a clinical writer, in particular, Ingram shows his book in line with case histories of patients affected with linguistic speech disorders. He also provides fascinating accounts of the scientific breakthroughs that have fortified understanding of speech, and of the disputes that have split the linguistic and scientific communities. Equally interesting are his musings on some of the foibles of human conversation, including Freudian slips and the frequent use in English of "you know."

Ultimately, Ingram points out that even the most acute linguists and scientists have so far been unable to solve many of the most provocative questions surrounding speech. His own book provides no easy answers: Is language made or learned? Can animals talk? What happens when people speak in tongues?

Why do people hear other voices? Ingram's own scientific speculations these mysteries into compelling reading.

JOHN DEMME



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TECHNOLOGY

Getting the picture

Regulators are giving HDTV a high priority

For Joe Lam, a professor of electrical engineering, the search begins long and arduous. But so are the key competitors in the race to develop a North American system of high-definition television (HDTV). Lam says that his research group at the Massachusetts Institute of Technology (MIT) in Cambridge may be on the verge of producing the HDTV system that will eventually be used in North America. Widely viewed as the most important step forward in television technology since color sets were introduced during the mid-1950s, HDTV involves television picture tubes capable of providing spectacularly detailed, higher-resolution images. A version of HDTV is already in limited use in Japan, where last summer's Olympic event was broadcast using the new technology. Said Lam: "The quality of HDTV is spectacular. Once you have seen it, you don't want to watch conventional TV ever again."

Although scientists have been working on high-definition technology for more than 20 years, regulators in the United States and Canada are only now preparing to set the standards for HDTV. Late last month, Lam and his team were the last of four groups to complete tests of their systems at an HDTV centre in Alexandria, Va., that is officially sanctioned by the U.S. Federal Communications Commission (FCC).

At the same time, tests in which viewers are

asked to assess the picture quality of competing HDTV systems are nearing completion at the Advanced Television Evaluation Laboratories in Kanata, Ont., just west of Ottawa. The laboratories are operated by a group of Canadian television and cable companies and two U.S. laboratories under the supervision of Ottawa's department of communications. Researchers in Alexandria and Kanata are evaluating the competing systems developed in the United States and Japan. The competing groups for the contest have concentrated their efforts on a radically new form of HDTV, based on so-called digital technology, which North American scientists claim is superior to analog types of HDTV. Japanese technicians promoted high-definition television during the early 1970s, and Japan is the only country where it is part of regular broadcasting. Japan's sole HDTV channel operates for only eight hours a day. During the late 1980s, European researchers began developing their own HDTV systems, but their technology is not yet available for general use. Both the Japanese and European systems are based on analog transmission technology. In analog television transmission, the physical properties of electrical impulses or of radio waves determine the image that appears on the screen. In a digital system, the television intercepts encoded information that is transmitted directly from the sender and uses that to create images. Most North American experts predict



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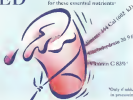
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TELEVISION

that when the FCC chooses a standard for HDTV sometime in mid-1993, it will be a digital system—and that other nations, including Japan, might be persuaded to follow and adopt the same digital standard.

Scientists working on HDTV systems say that the digital format will give the new television sets far sharper pictures as well as increased flexibility and efficiency. Based on the language of computers, digital television technology is expected to provide superior transmission quality. At the same time, digital systems, unlike those based on analog technology, can interact with other similar electronic media, including home computers and compact-disc players. Said Gerald Chomson, director of broadcast systems and network research at the federally operated Communications Research Centre in Ottawa: "At first, HDTV will mostly provide entertainment. But it can also be used for high-speed data transmission of things like banking information and stereo sound programs."

Four groups have been racing to develop the system that will set the standard for HDTV broadcasting in North America. The contenders include two U.S.-based partnerships that have developed digital HDTV systems. One links MIT and Chicago-based General Instrument Corp. The other is made up of the New York City-based American Telephone and Telegraph Co. and the Los Angeles-based Zenith Electronics Corp. Last summer, the two American groups entered into an agreement to share royalties should either side win, creating a united domestic front against two other contenders. They are Japan Broadcasting Corp. (JBC), which is given little chance of winning because of its heavy reliance on analog technology, and a mixed U.S.-European consortium made up of the New York City-based National Broadcasting Corporation, the Princeton, N.J.-based DuPont Research Centre, and the American subsidiaries of Thomson SA of France and the Netherlands-based Philips Electronics NV, which is working on a digital system.

For the contenders, the stakes are high. The winning group will gain the right to license the chosen technology to broadcasters and manufacturers in the United States. Chomson said that Ottawa would likely follow the FCC's example and choose the same standard for HDTV in Canada.

Meanwhile, the FCC is clearly giving the introduction of HDTV a high priority. After a system is chosen next year, U.S. broadcasters will have five years to set up HDTV channels alongside existing, conventional channels. Initially, HDTV sets will probably be too expensive for many viewers, so most use of the cheap-to-produce sets will be for about \$100,000. By the year 2000, when sets are expected to become widely affordable, broadcasters will be required to phase out conventional TV broadcasting to free the spectrum for other uses. Until then, the advantages of HDTV are likely to remain clear only to a few: the researchers who are working to perfect the new technology, and the lucky few who can afford to own it.

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BOOKS

Perfectly abnormal

An author makes sense of deviants and misfits

WE SO SELDOM LOOK ON LOWS
By Barbara Gowdy
(Toronto, 309 pages, \$19.95)

In the title story of Barbara Gowdy's new short-story collection, *We So Seldom Look on Lows*, a pretty, blonde newspaper editor ponders the absurdity of her obsession. "I used to fall madly in love with celebrities," she muses, "and then cry because they were dead." Sadly resigned to her situation, she is also grateful to be able to ritually visit who, in her overheated imagination, whimsically returns her love. "When I used to fall for a particular celebrity," she recalls, "I'd creep out. I would creep out... and I was an editor for the cadaver to over-look and be amplified." Total devotion, and the fulfillment that such devotion brings, is a central theme of these eight exciting, often grisly, tales. Delivered in a clean, conversational tone, but about such unconventional subjects as Sussane Snow

and a transsexual husband, they are absolutely compelling stories about the bleak view of everyday life.

What makes the Toronto writer so gifted is her ability to come across as a sympathetic character for her often bizarre characters—not by preaching the virtues of sympathy, but by drawing out, often with wincing timing and black humor, the humanity of the male. In her acclaimed second novel, *Falling Angels* (1989), she transformed a troubled family, composed of an abusive father, a drunken mother and three frightened daughters, into a successful, oddly kooky, and—most likely to be admired rather than scorned—in her new book, she takes the defense of ostensibly pitiable people one step further, creating characters who not only survive but actually find happiness in their deviant ways. "I'm not bad looking," says the neurologist of the title story, in a statement typical of Gowdy's unusual outsiders, "so if offering up body to food

isn't a cross, I'd like to know who the victim is."

Gowdy's ability to give texture and credibility to these who, on the surface, seem accessibly strange is apparent in the title story "Nasty-thingy Milton Miles Henry," the story of a hard-lasseuse who hopes to mine her self-esteem by painting a self-portrait. One day, while standing nude at her easel, she notices that a middle-aged man in the apartment building across from her is watching. Instantly, she experiences an intense pleasure in his mere viewing, discovering her own beauty only in his gaze. "It was so," she says, "her eyes were in his head."

Soon, she arrives into a morning mist of masturbating in front of him at her window, imagining "his hands under her, lifting her like a leaf in his lips." And, in a truly inspiring case of mind over matter, she actually begins to grow more lovely in the eyes of her friends. "Everyone she knew," writes Gowdy, "saw how great she looked." At her most isolated and seemingly deprived—reduced to performing in minute act for a man she does not know—she finds joy.

Exploring people's need to have others need them is also the subject of "Sylvia," an eerie story of a young woman whose half-brother Sussane Snow, "perfect little legs, with feet, knees, thighs, hips and a belly," grows out from her stomach. Sylvia has small feelings about the extra limbs, which she and everyone else call "Sue." Physically, they are a burden. But she resents the fact that her mother has



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BOOKS

always flawed. See, hoping for especially nice stockings and shoes. Still, it is because of her that Sylvie is able to flee her boring rural life and join a circus. And when a handsome circus billy in love with Sylvie, and begins to plan an operation to remove what he calls a "parasite," Sylvie begins to ponder life without the circus and that has always depended on her.

The most powerful story in the book is "Pierisaurus Crosswalk," a haunting tale of an 18-year-old girl named Beth who works feverishly to work away the hydrocephalus of a school friend. The story also contains the most enigmatic and complex character in the collection—Beth's grandfather, who 38 years earlier "had had his tonsils taken out by a quack who ripped out her vocal cords and the underside of her tongue." She moderns silently through the house and communicates by attaching simple pictures as a notepad, including "a big dollar sign and then an upside-down V acting in the middle of a line—a witch's hat" to signify that Beth's reformed mother has planned to harangue Beth's father



Gowdy: neonephilia, a transsexual, hydrocephalus, Skansens twins

for money. Black and countering, "Pierisaurus Crosswalk" quietly evokes the consequences of irreversible tragedies, and the barely desperation that can accompany childhood.

Not all of Gowdy's tales depend on the disabled or the outcast for dramatic effect. In "Fish of My Fish," the author ingeniously

recreates two stories in the life of a pet dog never named Marlon. To demonstrate how the commonplace, rather than the extraordinary, can have a most transformative effect on people's lives. In one tale, Marlon's husband confides on their honeymoon that he is a transsexual—he was once a woman. Panicked and disgusted, she begins to reflect, in a series of flashbacks, on her earlier marriage to a slightly sporting close salesman and on the love that caused when the couple welcomed a loud-side young woman into their home.

As Marlon dwells on the direct and treachery of that conventional marriage, one whose intense glow Gowdy clearly delights in sketching, her new husband's startling revelation begins to seem a consequential by comparison. Rather than cause her high drama, it is, she realizes, merely a blip in her colorful but miserable life. And it is proof that, just as Gowdy excels at hammering the grotesque and repellent, she is also adept at turning brutal lives into fascinating excursions.

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Canadians at Vimy Ridge: personal accounts of a nation forged in blood and fire

Painful rite of passage

How the Great War changed Canada irrevocably

TAPSESTRY OF WAR: A PRIVATE VIEW OF
CANADIANS IN THE GREAT WAR
By Sandra Geyr
(Warner/Vintage, \$52 pages, \$26.95)

It was the summer of 1914, and the ancient sailor town of London had just completed a triumphant speaking tour of the young dominion. As Sandra Geyr recounts in her engaging chronicle of Canada and Canadians during the First World War, Sir Arthur Conan Doyle, the creator of the fictional detective Sherlock Holmes, had seen Canada in all its moods. Then, as a parting interview, he declared that because of unbalanced commercial, diplomatic and military ties, the country would remain loyal to the British Empire. That balanced independence would be defined. But the European war that broke out months later marked a turning point in the imperial relationship, altering Canadian traditions and attitudes. During the Great War, writes Geyr, "the country learned more and outgrew faster than at any other time in our history."

Geyr documents that transformation of national life in 226, often poignant detail in *Tapestry of War*, a companion volume to *The Private Canada*, a social history of post-Confederation Ontario that was the 1984 Governor General's Award. As in the earlier book, she uses personal letters, diaries and memoirs to illuminate the period. Two of the most striking

sources are the diaries of Ethel Chadwick, a social-climbing young woman in Ottawa, and the correspondence of Talbot Phipps, the geographist of Quebec national Louis-Joseph Papineau.

Geyr offers penetrating insights into the wartime years of an array of other Canadians from Max Aitken, the New Brunswick media baron later known as Lord Beaverbrook, to automobile driver George MacKenzie, a glorified Vancouver secretary who led her own way to the front only to face both the rigors of the German siege and the barbaric rules of a male-dominated military. Through the prism of those lives, Geyr presents a vivid, deeply affecting panorama of Canadian life and the world's first total war.

The author's central figure is Papineau, a bilingual Rhodes Scholar and budding Canadian nationalist who, she argues, would have lived for Canada's leadership with William Lyon Mackenzie King had he not been killed in battle. During the conflict, he began his enlightening public correspondence with his cousin Henri Bourassa, a Quebec nationalist. But it was in his two-year correspondence with Beatrice Fox, a Philadelphia sculptor whom he never met, that he revealed much about his divided self and the attitudes of the time. Papineau often seems hostile in his letters. At one point, after angrily wooing Fox, he writes, "The strange thing is that whereas I have

loved others and yet did not think them suitable, I think you suitable but do not love you."

A few chapters tell even unapologetically portrayed Canadian war stories. Adams, described by Geyr as a "charming middle-aged failure," Adams joined up at age 48, survived more than three years in the trenches and wrote every day to his wife, Mabel. The correspondence is, in a sense, a master-of-fool record of the war's progress—and the war's aftermath. Describing the surprise appearance of tanks during the battle of Vimy in September, 1916, Adams wrote: "They can go over any ground, over a 13-foot trench or a sandbag wall. Machine-gun fire or a whirling gas has no effect on them. They are the wonder of the war."

Indeed, for all Geyr's deft exploration of the personalities involved, the conflict itself—the muddy trenches and hand-to-hand combat at Vimy, Ypres and Passchendaele—occupies center stage. Geyr's wartime post-war pictures that are all but visible. Writing to his mother, Caroline, in 1915, Papineau says "I have found a man without a face. I have tied a man's foot to his knee while he hid me to save his leg and later nothing of the few halcyon clouds that remained... Never shall I shoot duck again or drive a speckled trout to gape in my basket—I would not wish to see the death of a spider."

Such observations enhance many of the pages of *Tapestry of War*, a social history with the sweep of a novel. That the story is factual—an account of a nation forged in blood and fire—adds to its power and allure.

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- 6 *The Secret History*, Janet (2)
- 7 *Good Bones*, Albert (2)
- 8 *Dancing Queen*, Patricia (2)
- 9 *Shogun's Palace*, Cleveland (2)
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- 2 *The Charge*, Green (2)
- 3 *Mark My Words*, Melvin (2)
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The 'Chilean solution' takes root in Ontario

BY ALLAN FOTHERINGHAM

The most important political stories are the ones that never dominate the front page. They are the subversive ones, lying undetected beneath the surface of a society. They don't get the attention they deserve because they are too complex—or people don't want to acknowledge them.

For two years now, the big boys of Bay Street have been going ballistic over the fact that, by a statistical fluke, the New Democratic of Bob Rae claimed a majority government in Ontario on 38 per cent of the vote. It was one of those political "corrections"—not-of-20-times aberrations that was the rogue 20th result.

Big business has been going ballistic over the state's proposed labor-law reforms that happen to have been in practice for 14 years in Quebec and are just being introduced into the British Columbia legislature.

The banning of the Scotch and-walrus in the Toronto Club hasn't been getting anywhere. Far more important is an attempt to deconstruct the police force of Toronto. The police force of Toronto are openly denying their provincial government and that is where the root sets in.

For a month now, some 6,000 cops in the biggest city in the land have been knocking the law by refusing to wear their uniform hats with a badge number in display. And declining to observe obvious traffic violations and parking infractions.

Then last? The government's new gun rules that attempt to curb the threat of our society to drift toward the trigger-happy American example. Police wouldn't be required to file a routine report every time it happens that they find loaded in draw their weapons.

As we know, there is no continuing tradition of where a gun is drawn, someone is shot. It would seem only sensible that some information as to the circumstances would be useful. The public will decide that, not the police. The changes from Toronto's black community—overplayed and hyped to some degree—that the cops have it out for them, only makes more

young, bright and brazenly aggressive women by the name of Susan Ray.

It fits with the politically correct social democratic creed—ignoring that women, and members of the ethnic community, are just as deserving of top jobs as tired old whites with mustaches. Ray has the charm of a sledgehammer and many think it was an oversight, but you can't have police dictating the direction of a society. That's the job of a government—until it is thrown out.

What is happening in Toronto is that the cops are now taking on the chore that the Bay Street stockholders enable to achieve: breaking the law government. The police union head, who like all sleep stewards is a Bari, has "de-manded" that Premier Bob Rae sit down with him—and they were equals. Rae, prodding the reluctant police chief on, has rightly declined to submit to the ultimatum.

At the base of all this is the middle-class (lower middle-class) anger that the police represent, attempting by the wrong means to undo an unfortunate group of politicians in a direct all-out "outlet" political parties that come to power unexpectedly, the Rae cabinet had the usual number of assassins and assassins who have had to resign and have fallen into a series of Boston Kestrel pitfalls and escapades.

The problem, the frustration, for those who think neo-socialists are the day's handwork is that the future appears extremely murky. The opposition Conservatives are led by a well-meaning chap, outside the Toronto power circle who hasn't made any impact at all. The opposition Liberals are led by a bright and energetic lady whose sense, if asked of any politician on

Young Street, cannot be recalled.

It's this frustration that leads the cops, who think they've been painted an excessive white hope by the liberal press and the politically correct state, to feel they can do the very best they are paid to do. When a police force decides that it will make its own laws, we are in trouble indeed.

They will, eventually, have to be heard down. But the trouble will linger. We have seen what has happened, in small cities in the Atlantic provinces for example, when police is thrown on its side. You can never recover the natural respect that has been lost.

The Toronto police are on a losing wedge. What they don't realize is that they are being used, in an uncalculated way. They are the sargasses for cops from elsewhere. They are trying to do what the stockholders couldn't do. Which is to contribute government. That only happens in Chile.



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